

Apple2000

THE NATIONAL APPLE USERS GROUP



DECEMBER 1991

VOLUME 6(6)



PREPARE
FOR
1992 THE YEAR
APPLE FORGOT



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think that there is a company
that has taken more seriously
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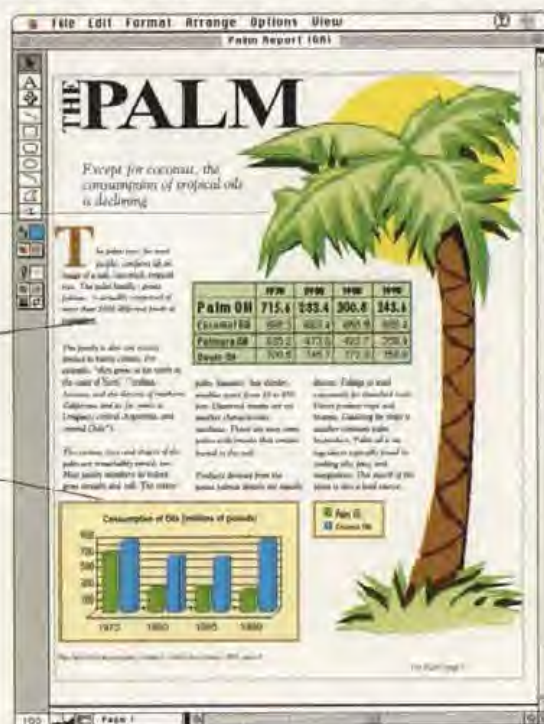
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Apple2000 supports users of all the Apple computers. The ITT 2020, I, II, II+, //e, //c, //c+, IIGs, IIGs+, ///, Lisa, XL, Mac 128, 512, MacPlus, Classic, Classic II, SE, SE/30, Mac LC, II, IIsi, IICx, IICl, IIfx, IIfx, Quadra, Portable and PowerBooks

Contributions and articles for the magazine are always welcome. We can handle any disk size or format. Please send to PO Box 3, Liverpool, L21 8PY

NOTE:

The front half of the magazine is mainly for the Apple II, Apple IIGs and Apple ///. The back half for the Macintosh and Lisa. Look for the descriptive page icons.

Key:

Apple II, //e and //c

Apple ///

Apple IIGs

Macintosh, Lisa

Macintosh II



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There are a number of ways to contact Apple2000

If you wish to order goods or services from Apple2000 or just leave us a message, call Irene on 0151 424 0131 (AnsaFone during the day). Alternatively you can Fax your order to 0151 424 0131 or write to the PO Box. If you use comms you can leave orders on TABBS addressed to the SYSOP or contact us on AppleLink (BASUG.1).

If you are experiencing problems with Apple hardware or software Dave Ward and John Arnold run the Hotlines and will try and help you.

We are very interested in the activities of local user groups, and if you have any information which you would like publicised John Lee would like to hear from you.

We reserve the right to publish, without prejudice, any advice or comments given to members as a result of letters received, in the journals of Apple2000.

A little praise for a few of our authors wouldn't go amiss. Send all comments, and contributions, via the PO box, especially suggestions about what you would like to see in **your** magazine.



Chairman's Corner

Apple2000 1980-1991

They say things move fast in the computer world. It is now only twelve months since Apple changed the rules by introducing three new low cost computers. Three printers and a new scanner later they have just released six more computers. The rumour mongers had predicted correctly and we now have three pocketbook computers replacing the Mac Portable, a Classic II replacing the SE/30 and the two new Quadras introducing a high standard in Apple workstations.

The pocketbooks have already had a great impact on the notebook market and are being bought in their hundreds by PC owners. This is not so odd as it sounds. The version of System 7.0.1 installed on the pocketbooks has PC Access built in. This means that they are able to read and write directly to MS/DOS disks in the SuperDrive. By using programs like Lotus 123 and WordPerfect the MS/DOS enthusiasts will be at home. Perhaps the desktop interface will rub off on them and they might even start to use Macintosh software as well.

Who knows, in time they may even give up their precious PC clones and buy Macintosh even before the joint project with IBM bears fruit.

The dropping of the Portable was inevitable. This computer was just too costly and heavy to make it in the portable market. The pocketbook does all that anyone would want and is the right size, price and weight to succeed.

What is stranger is the dropping of the successful SE/30 without a direct replacement. The SE/30 was not 32 bit clean on its address lines, but this could have been put right by a new ROM. The Classic II, although it has the same 68030 processor, lacks a NuBus and maths co-processor. This makes it a slower machine than the SE/30. Are Apple trying to discourage power users from buying a black and white computer?

The Quadras look exciting, but I am sure we shall see a crop of compatibility problems as ageing programs try to come to terms with 32 bit addressing for real.

Apple managed to have supplies of the Pocketbook 100 and Quadra 700 for sale at the MacUser show. The high end Pocketbooks and the Quadra 900 are still to come. How many Pocketbooks will be in Christmas stockings this year I wonder?

There are now 11 computers and five printers in Apple's repertoire. Quite a range for one company.

There were more visitors at this years MacUser show than ever before. The Apple2000 stand was besieged for the four days. A big thank you must go to all those who helped with the stand, and a warm welcome to all the new Apple2000 members who joined us there.

We had an endless stream of questions asking us which computer to buy, how to resolve file transfer problems and much more. It is clear that problems are not being resolved always at the dealer, and that the help of a User Group is needed more than ever. However we are not always able to identify those who need our help. If you know of a new user or one that would benefit from a Membership of Apple2000, please tell them about us. The more of us there are, the stronger we can be and the better a service we can provide those that need help.

I was greatly amused to open the new price list that Apple was distributing at the MacUser show and find a page entirely devoted to the Apple IIs. This now overpriced computer refuses to die despite all attempts to do so. We will probably never see another new CPU for the Apple II range, but support for it is still in progress. System 6.0 for the IIs will be released very soon now and promises to be quite something. Check out the real-time conference transcript on page 29 for more details.

We shall get the disks into the library as soon as we can.

Ewen Wannop



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This journal is published bi-monthly by BASUG Ltd as a benefit of membership in February, April, June, August, October and December. The Apple Slices newsletter is published in the intervening months. The copy date is the 1st day of the month preceding publication. Advertising rates are available on request.

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This issue was prepared using Aldus PageMaker™ 4.0, MicroSoft Word™ and Claris MacWrite™ under System 7.0.

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Apple II Macintosh Reviews

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Norah Arnold, Irene Flaxman
Elizabeth Littlewood

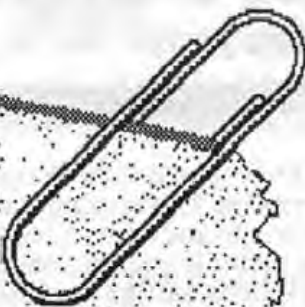
Many thanks to all those who work behind the scenes and who receive no personal credit. These people are the stalwarts of Apple2000.

Additional thanks go to Val Evans for designing our front cover, and to Walter Lewis of Old Roan Press (051-227-4818) for our printing service.

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Apple User Group Council



Letter Box



CompuServe
From: 100010,2611

Dear Apple2000,
Mac IIcx Power Supplies

Many thanks to Ewen for taking the trouble to photocopy the page of Sept 90 Slices. However, it doesn't cover the detail of the cure for the problem.

The article to which I referred in my letter to Ewen, actually had a layout diagram of the offending power unit and details of what to do. I must have seen it in Apple 2000 or BYTE for I don't take any other periodicals, but I've searched through all my copies and I'm damned if I can find it.

I tried to leave a general message about the problem on CompuServe Mac New Users and Help Forum, but my CIM declines to send anything to a Forum from the Out Basket. I shall probably finish up having to send the message to the Feedback service.

John Stanier.

□ You cannot use the Message function of CIM to send a message to a Forum. You must enter the message directly when you get there.

I hope you manage to find this article. I know we have tried to jog memories before. Perhaps we can try again.

Editor

North Shields
Tyne and Wear

Dear Apple 2000,

I presume by the marked lack of response to my previous offer to compile a record of Apple II users and inform people of nearby compatriots that the Apple II using community of Britain wish to remain hermitised.

I would like to thank the few people who phoned or wrote and I will send a sheet containing all names and addresses to these gregarious few.

I would also like to thank the gentleman who helped me with the Hitchhikers Guide to the Galaxy, could he please get in touch again as I am still stuck. I still require help with Tass Times in Tone Town and also Dream Zone.

I still hope to put people in touch

with each other but to do so I need YOU to contact me either via TABBS or by post at:

105 Church Street, Bournemouth,
Hants, BH1 1AA
Phone: 01203 611111
Telex: 251111
Fax: 01203 611111

or by phone on 091 2579078 between 6pm and 7pm except Friday.

The same methods can also be used if you need help using the Apple IIGS.

Alan Armstrong

CompuServe
From: 73457,3614

Dear Ewen,

I EXPECT your attention has already been drawn to the "Publish It!" review on p. 14 of August's magazine. The review is of "Publish It!" version 3, but in the same edition on p. 29 is an advert from MGA for version 4. I phoned the American manufacturer direct, gave my user reference for my existing version plus my credit card number and received version four within two weeks at an update cost of £33, half of which was airmail.

Incidentally, the GS version can utilise GS fonts and on loading and installing GS font humorously called "Cairo" I discovered that it was not letters but hieroglyphics.

Arthur Robinson

St. Annes-on-Sea
Lancashire

Dear Sir,

I am a teacher with my own Apple II EuroPlus and two //e's.

I am after a Beagle Compiler, a keyboard buffer, a thing called Beagle "Special K" and, if available, a big buffer for my Epson MX82 printer (1 mb?), but all ideas are of interest.
Andy Gudgeon

□ Check out the ProDOS library update in this issue for some of the software you want. I presume you mean Extra K, not the breakfast cereal!

The //e does not have a true interrupt system and so a keyboard buffer is not possible. However there was a Videx keyboard enhancer for the EuroPlus available in the old days. You may still be able to get one somewhere.

Many people made printer buffers. For one the size you would like you must get an external box with the required hardware. The Cirtech CacheBox will fill your needs, check current price with Bidmuthin Technologies or direct from Cirtech themselves (0835 23898).

Check out Eric Sausse (01753 441111) for elusive or secondhand items.

Editor

St. Peter-in-the-Wood
Guernsey

Dear Apple2000,

Can anyone help me! Before embarking on next year's subscription AppleXtras discs I would dearly like to access just one of the previous issues! Can you tell me - preferably in words of one syllable - how I can do this?

I have an Apple IIGS which I use regularly for word processing, spreadsheets (for accounting) and a bookkeeping program, which is no help with the Xtras discs but just illustrates that I am quite familiar with the IIGS which has 2+ mb. Is the GS/OS V5.0 of any use?

I would appreciate any help which you can give. I seem to remember an article in the magazine (re AppleXtras) but I was none the wiser and after a very short telephone conversation on the subject I was just 'lost'.

R. A. Sharman

□ Oh dear! Yes, you certainly will need to use GS/OS on your IIGS.

I will try to explain in simple language for you how to prepare your machine for using the Xtras disks. Although the mechanism of preparing your hard disks for use on the IIGS is

□ If you have an urgent problem you should ring the Hotline to get help. Letters and Fax submitted to Apple2000 will normally be dealt with as part of the editorial content of the next magazine. We shall endeavour to answer problems if at all possible before publication, but due to the large volume of letters received this may not be possible in all circumstances. Please submit all letters and articles to the magazine on disk wherever possible. The disks will be returned to you when the magazine is published. The publication deadline is the 5th of the preceding month to publication. If you have a modem, send us letters, articles and Public Domain programs to the Sysop on TABBS: (01203 611111)



different from the Mac, the principle is exactly the same!

The confusion you have fallen into I am sure, is due to the way you use the IIGs now. You are probably booting up from floppy disks directly, or are using ProDOS 8 (perhaps unwittingly) to run the first System file on your hard disk. If this is so, then you will not be in a position to use any of the Xtras programs or utilities.

The IIGs, confusingly, can think of itself as a EuroPlus, a 7/e and a IIGs. If you simply boot a program disk or use ProDOS 8 on a hard disk, then it will think it is a faster 7/e.

To use the programs on the Xtras disks, you will need to be running under the GS/OS desktop environment. This is just like using the Finder on a Macintosh. The Macintosh runs under a desktop environment all the time! The current version of the GS/OS operating system is 5.0.4. You should not use anything less than this. System 5.0.4 is on disks 2GS037 and 2GS038 in the IIGs library.

This desktop environment is the operating shell that allows you to run programs, copy files and do almost everything on the IIGs. Without it, you will not be able to use your IIGs properly, and certainly not run most of the programs on our Xtras disks.

There is a catch to installing GS/OS on a hard disk for the first time, but only the first time, and you may need help to do this. The problem is simply that there is not enough room on the System floppy disk (2GS037) to hold all the files needed to see your hard disk. When you start up with the System disk, it will see you have a SCSI port there, but will not have the drivers needed to access it, and so will ignore that is there. Without seeing the drive,

you will not be able to install System 5.0.4 on to it!

As you have plenty of memory on your IIGs, the best solution to this problem is to do the following:

1. Set up a 1mb RAM disk in IIGs memory.
2. Boot the IIGs by setting the Startup Slot to 5 (on the Control panel) and using the System disk 2GS037.
3. When you get to the desktop, insert the Tools disk, 2GS038, and run the program Installer by double clicking on its icon.
(If you are already lost by these directions you should ask your dealer or someone with IIGs or Macintosh knowledge to help you from this point on).
4. When the Installer is running, select the RAM disk as the target disk, and install the latest System files and the SCSI Driver only.
5. When this is done, set the IIGs to boot from the RAM Disk and reboot. You must do this by pressing Open-Apple-Control-Reset and not by switching off. You would lose the contents of the RAM disk if you did that!
6. You should now find yourself back at the desktop, but this time you should see all of your hard drives.
7. Repeat the process of running the Installer program, but this time install on to the first partition of one of your hard disks. This time you can install anything you like, but it would be wise to just start with the latest system files and the SCSI driver. If you use a 5.25 inch floppy drive you should install for that as well.
8. Now set it to boot from the slot you have your hard drive in and reboot the machine. This time if all goes well, you should boot from your

hard drive and get to the desktop that way.

9. If you do not want to keep the RAM disk, then set its size to zero and reboot the system.

This may have seemed a laborious process, but it is a one time installation. If you update to a future System release, you will only need to run the installer, not go through the whole of this process again.

Now you should be at the desktop, you can now run programs by double clicking on their icons, get access to the subdirectories on the Xtras disks and do many other tasks. Ask your dealer how to do things on the Macintosh and you will be able to follow how the IIGs works. There are some things you can do on a macintosh that you can't do on a IIGs, but most will work. The principles are the same at least.

Many of the programs on our Xtras disk have been compressed to save space. These all have a filename ending in .SHK or .BXY. You cannot run these programs without unshrinking them first. If you do not already have GSShrinkit then also get disk 2GS049 as well. This has a working copy of GSShrinkit as well as other useful tools.

From here on things might get complicated for you...

There are many different kinds of files on the Xtras disks. Some will be programs that you can run directly, and some will need to be placed into the correct folder to work. Desk accessories for instance go obviously into the Desk.Accs folder, Fonts into the folder and so on. Many of the programs may be in a folder (subdirectory) and include a DOC file written either as a text file or an AppleWorks file. Use the program List.System on disk 2GS049



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to view these files.

If you have managed to follow all of the above then you should be well on the way to realising the full potential of your IIs. If not, then you must find someone who can help you directly to understand how to use the IIs. It is as easy a computer to use as the //e, it just works in a different way. However as this is the same way as how the Macintosh works, you should be able to find someone who can explain in greater detail for you.

Ewen Wannop

Saffron Walden
Essex

Dear Sir,

Am I the owner of the only "odd-ball" Apple //e in captivity? Or does my Apple //e have the only "non-compatible" owner in the UK?

It appears to me that almost anything in which I become involved in relation to my //e does not seem to obey the rules, or (as is more likely) I don't understand the rules!

Take the article in the August 1991 issue of Apple2000, relating to the detailed tour of the motherboard. I am quite convinced that I have an unenhanced //e, as the screen display on switching on is the Apple II logo. However, my board does not appear to conform to the details given in the article at all, particularly in relation to the information concerning the location identification. My board doesn't have locations 1 to 14, but 1 to 15! Equally, I cannot locate any of the chips identified by the positions quoted in the article.

Then there is the question of a colour display. I have written previously to Apple2000 concerning whether I am able to use a Phillips CM 8833 Colour Monitor with my //e. I was told that this was not possible without a special card, but in a copy of the Pitman Pocket Guide "Programming for the Apple" it states quite clearly that "...The video output from the //e is a composite video signal with colour information encoded to the PAL standard used in the UK and certain other parts of the world. This means that a colour card is no longer required to provide output from the Apple which will give a display on the colour monitors available locally...". What is the situation please?

The information shown in my machine is as follows:-

In the top left-hand corner:
Apple //e PAL © 1982.

Middle top:

820-0073-B © 1982 B607-0264-F
Is a basic book of the Apple //e available, one which would answer my fundamental questions? I don't seem to be able to find the answers to my questions in the Owner's manual, and I don't know where else to look.

In spite of appearances to the contrary, there are some points about the Apple which I find attractive - I like using AppleWorks (being used to type this letter) but overall become so frustrated at not being able to resolve my queries that there are times when I feel like "giving the Apple best" and going back to my trusty BBC "B"!

R. E. Hackwell

□ First of all we give ourselves a heart smack on the wrist. The article in the August magazine was written in the States and we neglected to point out that the machines quoted are the US versions of the Apple //e. Here in the UK most of the Apple //e's have been assembled in Ireland, and have a European motherboard with PAL colour output. You have one of the later UK motherboards as all the numbers you quote check with my own //e. There are indeed positions 1 to 15 on this board. You can always tell a European board by the fact that the extended memory card slot is directly in front of Slot 3 and not to the front left of the board as in the US version. I have not got the details of the earlier UK boards to hand.

Whether your //e has been enhanced or not will depend on the microprocessor and the Rom chips. They should be as follows:

| Position | Unenhanced | Enhanced |
|----------|------------|------------|
| E1 | R6502 | R65NC02 |
| E2 | 342-0135-B | 342-0304-A |
| E5 | 342-0134-A | 342-0304-A |
| E9 | 342-0160-A | 341-0273-A |

If you find that you are not enhanced, it would be wise to do so as soon as possible. Many of the programs on our recent library disks will not run unless you are!

To get more of this kind of information on the //e I would suggest ordering the "Apple //e Technical Reference Manual" from Apple2000. Order by code 0-201-17750-1.

As to the question of the colour display. The confusion I am sure has arisen due to the problem of identifying your Phillips colour monitor. Monitors that are commonly available can have either an RGB TTL input or a composite line input. It is common in the video world to use only composite video input and in the computer world to use analogue RGB TTL. The monitor you have could have one or other of these inputs or might even have both.

If your monitor is of the RGB TTL type then you will need a colour card to drive it from the //e. If you have a PAL composite input monitor, then you will be able to drive it directly from the video phono socket at the back of the //e. There is a 'colour' switch inside the //e to the right of the main motherboard. This must be set to 'off' for colour output and 'on' for a clear black and white display. Push it towards the back of the machine to

switch off.

You may have problems getting a clear display on composite video due to the way that colour is generated on the //e. The colour display was intended for feeding into a colour television rather than a high colour monitor. It relies on the poor bandwidth of a television to generate colour. The high bandwidth of a good quality monitor can result in a rather washed out display. The //e is rather better in this respect than the Europlus.

Please don't go back to your BBC, there is some wonderful software for the //e available, and more is being written day by day!

Ewen Wannop

North Shields
Tyne and Wear

Dear Apple2000,
A Meeting of friends.

A short while ago I decided to have a get together of old friends who share a common interest. I contacted these friends and said 'Hey Guys, how about coming up to my place for a get together.' Actually that is not what I said exactly but it does contain the general drift of my meaning.

And so it came to pass that eight of us were in the same house and had the use of three machines. No, I tell a lie, two machines. The third wasn't in use because someone had forgotten the CPM software, which did not matter as the owner had forgotten the System Discs. Ah well the best laid plans of...

What did we do?

Well while some people talked some people demonstrated software. The two rookie members learnt how to handle the machine, especially all the fancy bits in the Finder such as the Options. We all made sure we were using the latest version of GS/OS and dreamt and fantasised about how good the new GS/OS will be.

Was it worth while?

I think it was and I hope the others agree. The new users saw what the machine was capable of and how to get the best from it. The more experienced users saw what other pieces of software were like. And we all talked and by talking educated each other.

The Future?

Well guys same place next year, and remember - 'NO MAN IS AN ISLAND'
Alan Armstrong

□ Alan, you describe a typical local User Group meeting here! I do hope you can keep it going. **Editor**

M25 User Group

We met Jim Panks at the MacUser Show. He advised that the M25 Group is still alive - for details, contact him on 0800 000 000.

Compuserve

□ Please send us your ID's either to the Apple2000 ID 76004,3333 or to the PO Box in Liverpool or of course to the Sysop of TABBS (0225-743797).

| | |
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| Peter Bell | 100010,404 |
| David Collins | 100016,3060 |
| Ken Dawson | 100016,2275 |
| Michael Dawson | 100015,2232 |
| Gary Doades | 100016,2353 |
| Felim Doyle | 100016,1151 |
| Greg Elkin | 100023,616 |
| David Evans | 100014,1161 |
| Mateen Greenaway | 100016,602 |
| Alastair Greenstreet | 100010,742 |
| Dale James | 100016,1152 |
| Bryn Jones | 71307,1457 |
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| Richard Kelly | 100029,177 |
| Peter Kemp | 100016,1172 |
| Andy Letchford | 100016,1771 |
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| Steve Perry | 100013,365 |
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| John Richey | 100016,1037 |
| Russell Ridout | 72007,211 |
| Arthur Robinson | 73457,3614 |
| John Stanier | 100010,2611 |
| James Southward | 73767,1336 |
| Ahmet Turkistanli | 100016,3365 |
| Donald Walker | 100015,256 |
| Andreas Wennborg | 100012,342 |
| James Walker | 100013,142 |
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□ Send us your AppleLink ID's to the Apple2000 box.

| | |
|--------------------|--------------|
| Apple2000 | BASUG.1 |
| Cumbrian Computers | CUMP.COMP |
| Herts User Group | NA.HERTSUG |
| Liverpool Group | LIVERPOOL.UG |

Radio Hams

□ We now have more call signs!

| | | |
|---------------------|---|--------|
| Trevor Baker | - | G4CLE |
| Mike Bass | - | G3OJE |
| Harold Bennet | - | G4LPV |
| Ian Bryden | - | G0PMZ |
| Jim Danby | - | GZOVN |
| (Packet Radio Mbox) | - | GB7FCI |
| Michael Foy | - | G7KOD |
| Andy Harrington | - | G1XLW |
| (Packet Radio Mbox) | - | GB7SUT |
| Rev John Lincoln | - | GMOJOL |
| Tony Gatrell | - | G4SVB |
| Arthur Owen | - | G2FUD |
| John Stanier | - | G3APU |

Help Lines

□ Members having offered specialist help facilities are listed below:

| | |
|----------------------------------|-----------------|
| Alan Armstrong (Apple II+, IIGs) | (0191) 333 0070 |
| Ken Dawson (TimeOut, ProSel) | (0111) 434 0074 |
| Michael Foy (Amateur Radio) | (0110) 350013 |
| A.W. Harmer (Mac) | (0110) 404707 |
| Leonard Horthy (4th Dimension) | (0121) 211570 |
| John Richey (AppleWorks) | (0112) 721051 |

A2-Central

| | |
|-------------------------|------|
| A2-Central magazine | \$34 |
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□ All prices are for one year's subscription and include world-wide airmail delivery.

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All usual credit cards accepted.

GS+

□ GS+ the magazine for software developers is published by EGO Systems. This magazine is published bi-monthly and is now the only magazine devoted to programming on the Apple IIGs now that 8/16-Central has ceased to be.

Contact:

EGO Systems
PO Box 15366
Chattanooga
TN 374150366

□ They do accept credit cards as far as we are aware. Subscription cost unknown at the time of writing.

A+

□ The A+ magazine is published every month and costs \$82.97 for one year.

Contact:

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Boulder
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Contacts

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□ Mention you are an Apple2000 member. If you are a Macintosh user then order a copy of Compuserve Information Manager at the same time.

GENIE™

□ CompuServe is the biggest online system that interests Apple users. It has many areas within MAUG of specific interest to us. However, there is another online system in the States that has special areas for Apple users. GENIE is a branch of the General Electric company and the online service is now available for UK users. The GE Services network that is used from the UK is in fact the one also used by AppleLink.

Online charges to GENIE are charged in two price bands. Peak periods (Mon-Fri 8 am to 6 pm Eastern Standard Time) are charged at \$20 and offpeak (all other times) at \$8. The offpeak charge is therefore cheaper than CompuServe.

These however are the online charges only. You have to access GENIE in the first place. So far they have not installed a similar access to CompuServe so it will be necessary to have your own PSS or DialPlus account and call the NUA '334219601282'. This is a UK NUA so only the £1.65 an hour PSS charge will apply. The total charges for GENIE therefore work out at around £7.06 an hour offpeak.

Enter XJM11797.CENTRAL at the U# prompt when you reach GENIE and follow instructions.

See you all online!

AppleXtras

Xtras.P8.No.12

| | | |
|-----------------|-----|-------|
| DOCTOR.BXY | BIN | 11904 |
| SNEEZE.BXY | BIN | 26880 |
| SCSIPART.SHK | LIB | 31828 |
| SQUIRT.SYSTEM | SYS | 17189 |
| WHEELFORTUN.SHK | LIB | 37555 |
| P8.YEAR.UPDATER | BAS | 4908 |

Xtras.GS.No.12

| | | |
|------------------|---------|--------|
| Programs | DIR > 1 | 512 |
| 1 Catalogr.BXY | LIB | 12675 |
| 1 RESLIN.BXY | BIN | 33152 |
| 1 LOCATO.BXY | BIN | 22144 |
| 1 DUBLDUMP.SHK | LIB | 11201 |
| 1 MARIO.BXY | BIN | 32768 |
| Comms | DIR > 2 | 512 |
| 2 K387.BXY | BIN | 43904 |
| 2 K387DO.BXY | BIN | 52224 |
| 2 PHONELOG.BXY | TXT | 43264 |
| Stack,Utilities | DIR < 3 | 512 |
| 3 HYPMVR.BXY | BIN | 169856 |
| 3 HYPMVR.SIT | BIN | 137369 |
| 3 FRESRC.BXY | BIN | 88576 |
| Utilities | DIR = 4 | 512 |
| 4 AUTOME.BXY | BIN | 6016 |
| 4 SCONV.BXY | UNK | 24704 |
| 4 AWLaunch.SHK | LIB | 3599 |
| 4 SSGSO.SHK | TXT | 10880 |
| Sounds | DIR > 5 | 512 |
| 5 SYS7SN.BXY | BIN | 14848 |
| 5 pngasm.bxy | LIB | 11393 |
| Fonts | DIR = 6 | 512 |
| 6 KENILWORTH.SHK | LIB | 12370 |
| 6 LOSANGLS.SHK | BIN | 13696 |
| 6 FLIPPO.SHK | LIB | 6973 |

□ You may have noticed that we are using a new style of disk catalog for the Xtras disk this month. The catalogs were produced by a new IIGS program, the Cataloger, included on the Xtras IIGS disk this month.

Rather than producing wide and space consuming listings, this new program produces compact and customisable directory lists. Each directory is given a number and each file entry has its associated directory number printed first. A 'T' denotes the top level directory. If a directory is at the current level an '=' is shown against the filetype. If it is one down in level a '>' is shown and if it has gone back a level a '<' is shown.

By means of these indicators it is possible to catalog a complete hard disk or even a CD-Rom in a small space. CD-Roms may have many directories going very deep in level. A conventional listing, with indents for each level, would be very wide indeed.

We shall be using this catalog utility from now on for all our ProDOS and GS/OS disks. When System 6.0 for the IIGS arrives we shall be able to use it to catalog Macintosh formatted disks as well.

The library catalog is currently being reworked. We hope to have a new version available soon.

The Editor



/XTRAS.P8.NO.12/

□ Use ShrinkIt to unpack .SHK and .BXY files.

DOCTOR.BXY

The computer becomes a psycho-analyst. This is one of the earliest programs for the Apple II, but has been brought up to date in a new package.

SNEEZE.BXY

V.1.21 of Sneeze runs on any 80 column Apple II from the //e onwards. It will print text and AWP files, display graphic files and launch programs..

SCSIPART.SHK

A SCSI partitioning and tape backup program for ProDOS 8. It allows multiple partitions to be mapped into the ProDOS 8 device list.

SQUIRT.SYSTEM

Squirt 1.8 is a simple and alternative program selector. It will print its own documentation.

WheelFortun.SHK

Guess the words and gamble with the Wheel of Fortune.

P8.YEAR.UPDATER

The program listed in the article by Dave Ward.

/XTRAS.GS.NO.12/

Catalogr.BXY

The Cataloger program used to prepare the disk listings. See opposite page for further details.

RESLIN.BXY

A resource fork utility which allows resource conversions, manipulations and editing of resources.

LOCATO.BXY

A talking address and phone book.

DUBLDUMP.BXY

View two ranges of memory at once. A useful utility for the programmer.

MARIO.BXY

A game of viruses and pills. Follow the adventures of Dr. Mario and kill the deadly viruses!

K387.BXY

Kermit communications program version 3.87. The Kermit protocol is found on many mainframe campus computers.

K387DO.BXY

Documentation for Kermit 3.87.

PHONELOG.BXY

Keep a record of your telephone calls and calculate your own phone bill!

HYPMVR.BXY

Convert HyperCard stacks from the Macintosh to HyperCard GS. Full instructions included.

HYPMVR.SIT

This is the Macintosh end of the HyperCard conversion. It is used to convert HyperCard GS stacks to the Macintosh. It must be copied to your Macintosh and unstuffed with Stuffit.

FRESRC.BXY

A HyperCard GS resource editor.

AUTOME.BXY

AutoMenus eases the use of the pulldown menus by reducing the action to point and click without dragging.

SCONV.BXY

Converts source files back and forth between Merlin, Orca/M, Microl Macro and Lisa816. A must for the busy programmer

AWLaunch.BXY

Launch AppleWorks from the desktop

SSGSO.SHK

Launch SoundSmith at boot time.

SYS7SN.BXY

The System 7.0 sounds from the Macintosh.

PNGASM.BXY

A waveform sound editing utility



Time up for ProDOS

Dave Ward tells us how to prepare ProDOS for 1992 - a year Apple forgot

When ProDOS was introduced for the Apple // range of computers, in January 1984, few machines had clocks and those that did were usually unable to calculate the year. To overcome this problem Apple programmers introduced a clever algorithm into ProDOS clock driver to calculate the year. Unfortunately this algorithm only works for a 6 year period which means that one must update copies of the file PRODOS occasionally or rely upon Apple Computer Inc. to supply updated versions of PRODOS from time to time. Apple Computer Inc. don't always remember to do this and even the latest version 1.9 of PRODOS, issued on 16 July 1990 runs out of time in 1992.

This problem of year being inaccurate for 1992 even with ProDOS 8 version 1.9 was referred to in this magazine February 1991 with the promise that we would produce a general method to allow users to update their PRODOS files. It does, therefore, seem appropriate to consider all the versions of ProDOS ever produced.

Table 1 shows all the versions that I can lay my hands upon. William Watson pointed out to me that there have been versions from time to time with letter suffixes, such as version 1.0.1 GC or version 1.4B. These are usually patched versions of the PRODOS file produced by third parties. If the clock routine has been amended then this update may not work.

Table 1

| | |
|-------|-----------|
| 1.0 | 1 Sep 83 |
| 1.0.1 | 1 Jan 84 |
| 1.0.2 | 15 Feb 84 |
| 1.1.1 | 18 Sep 84 |
| 1.2 | 6 Sep 86 |
| 1.3 | 2 Dec 86 |
| 1.4 | 17 Apr 87 |
| 1.5 | 2 Apr 88 |
| 1.6 | 14 Jun 88 |
| 1.7 | 8 Aug 88 |
| 1.8 | 23 May 89 |
| 1.9 | 16 Jul 90 |

This table contains all the versions of ProDOS (now called ProDOS 8) that I can lay my hands upon, if you know of other versions then please inform us.

ProDOS was based upon SOS for the Apple /// computer and very early versions were around in 1983 where the body of the code resided in a file Kernel rather than ProDOS.

Version 1.4B was a patched version by Dr. Glen Bredon which changed the GUIT routine to make it friendly. It took Apple until version 1.9 to do this! Treat this as version 1.4.

After the fiasco with DOS 3.x where almost everybody was patching DOS Apple Computer Inc. stated from the outset that they would recompile ProDOS whenever they wished and anybody patching the system may not find the same code at the same place in newer versions. This means that the portion of the clock-driver code that holds the year table moves, not from version to version but, occasionally.

Sometime soon Apple Computer Inc. will be launching a new version of ProDOS 8 which will only work with Apple // computers with a 65C02 chip. This will be version 2.0.

The following program can be used to amend the year tables in all the versions of ProDOS 8 that I have been able to find. The program can be compiled with the Beagle Compiler, if desired. When run the program first lists all the volumes on-line and allows one to choose any files on any of those volumes. If a directory file is chosen then all the files in that directory are shown. When you choose a file a check is made to ensure that it is a real version of ProDOS 8 before you can proceed. Next the table of years is read and presented on the screen with another table beneath it. You may amend this second table and then write it back to the file when you are ready.

Dave Ward

□ The Basic program that follows is included on the Xtras.P8.No.12 disk published with this issue.

If you are not already a subscriber to the Xtras disks, you may join the scheme by sending £20 to Apple2000 at the PO Box in Liverpool. Please state the format you require, 5.25 inch ProDOS 8 or 3.5 inch GS/OS.

Editor

The Listing

```

1  GOTO 50000
2  RETURN
5  PRINT CHR$(4)"COMPILE
  PRODOS.VERIONS,PV.BC"
: END
9  PGM$ = "PRODOS.VERIONS"
: PRINT "SAVING THE ";
: INVERSE
: PRINT PGM$;
: NORMAL
: PRINT
  " PROGRAM - PLEASE WAIT"
: PRINT CHR$(4)"SAVE "PGM$
: PRINT "SAVED THE ";
: INVERSE
: PRINT PGM$;
: NORMAL
: PRINT " PROGRAM"
: END
70 PRINT IVS$ " ";
: GOSUB 71
: PRINT " "NMS";
: RETURN
71 GOSUB 72
: PRINT NUS;
: RETURN
72 ON (MS = "" OR MS = NIS)
  GOTO 73
: FMS = "99"
: NU = VAL ( RIGHT$ (MS,2))
: GOSUB 1600
: NUS = NUS + "-" +
  LEFT$ (MJS( VAL ( MIDS
  (MS,3,2))),3) + "-19" +
  LEFT$ (MS,2)
: RETURN
73 NUS = "-----"
: RETURN
80 YY = VAL ( LEFT$ (DS$,2))
: MM = VAL ( MIDS
  (DS$,3,2))
: DD = VAL ( RIGHT$
  (DS$,2))
: RETURN
86 RETURN
89 K$ = (K$ = "Y" OR K$ =
  "y") - (K$ = "N" OR
  K$ = "n")
: RETURN
90 HOME
: PRINT CDS;
: HTAB 80 - LEN (PL$)
: PRINT PL$:CZ$ = "====" +
  IV$ + P$ + NMS$ + "===="
: GOSUB 96
: PRINT
: RETURN
96 PRINT SPC( (80 - LEN
  (CZ$)) / 2);CZ$;
: RETURN
281 VTAB 22
: PRINT SPC( 23) CHR$(15)
  "" CHR$(14)
  "=- PRESS ANY KEY TO
  CONTINUE ==";
: GET JS
: PRINT
: RETURN
2000 REM Find the maximum
  year in table.
2020 Y = 0
: Z = 0
: M = -1
2040 M = M + 1
: ON M > 6 GOTO 2
: IF TB(M) = X THEN Y = 1
2060 IF TB(M) > X THEN X =
  TB(M)

```

```

: PTR = M
2080 GOTO 2040
3000 REM Increase the max year in table by 1
3020 LY = 1
: CY = TB(PTR)
: NP = PTR - 1
: IF NP < 0 THEN NP = 6
3025 PP = PTR + 1
: IF PP > 6 THEN PP = 0
3030 IF CY - INT (CY / 4) * 4 < > 0 GOTO 3090
3040 IF TB(PTR) < > TB(PP) THEN LY = 0
3090 PTR = NP
: TB(PTR) = CY + LY: GOTO 2
4000 REM Decrease the min year in table by 1
4020 LY = - 1
: PP = PTR - 1
: IF PP < 0 THEN PP = 6
4025 CY = TB(PP)
: NP = PTR + 1
: IF NP > 6 THEN NP = 0
4027 P2 = PP - 1
: IF P2 < 0 THEN P2 = 6
4030 IF (CY - INT (CY / 4) * 4) < > 0
GOTO 4090
4040 IF TB(PP) < > TB(P2) THEN LY = 0
4090 TB(PTR) = CY + LY: PTR = NP
: GOTO 2
6000 REM Choose from all on-line volumes
6020 PD% = 0
: CV% = 1
: PA$ = ""
: PS = "Choose Volume"
: GOSUB 90
6040 REM List volumes on-line
6050 M = 8
6060 ONERR GOTO 6070
6070 M = M - 1
: ON M = 0 GOTO 6150
6080 PRINT D$"Prefix,s" MID$ (NB$,M + 1,1),",d1"
6090 PRINT D$"Prefix"
6100 INPUT VN$(0,M)
6110 PRINT D$"Prefix,s" MID$ (NB$,M + 1,1),",d2"
6120 PRINT D$"Prefix"
6130 INPUT VN$(1,M)
6140 GOTO 6070
6150 POKE 216,0
6160 M = 0
6170 FOR M1 = 7 TO 1 STEP - 1
: FOR M2 = 0 TO 1
: IF VN$(M2,M1) < > "" THEN M = M + 1
: VT$(M) = VN$(M2,M1)
6180 NEXT
: NEXT
: FV% = M
6190 PRINT D$"Prefix";MP$
6200 GOSUB 90
: VTAB 10
: FOR M = 1 TO FV%
: PRINT SPC( 10)M,IV$VT$(M)NM$
: NEXT
: VTAB 21
: PRINT " Enter Number 1 - "FV%" or Quit >";
: GET K$
: ON K$ = "Q" OR K$ = "q" GOTO 63999
: PRINT
: K = VAL (K$)
: ON K < 1 OR K > FV% GOTO 6200
6220 PH$(PD%) = VT$(K)
: PS = "CHOOSE FILE"
: GOSUB 90
6260 PH$ = ""
: FOR M = 0 TO PD%
: PH$ = PH$ + PH$(M)
: NEXT
: PS = PH$
: GOSUB 7000
: GOSUB 8000
6270 IF ASC (K$) = 27 THEN PD% = PD% - 1
: ON PD% = - 1 GOTO 6000
: GOTO 6260

```



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```

6280 IF TY% = 1 THEN PD% = PD% + 1
: PH$(PD%) = NA$ + "/"
: GOTO 6260
6990 GOTO 52000
7000 REM DIRectory reader
7010 FOR M = 0 TO FI%
: FI$(M) = ""
: NEXT
: PRINT CHR$(4)"OPEN "F$".TDIR"
: PRINT CHR$(4)"READ "F$
: INPUT M$
: INPUT M$
: INPUT M$
7020 FOR FI = 0 TO 200
: INPUT FILE$(FI)
: IF LEFT$(FILE$(FI),11) =
"BLOCKS FREE" THEN FI% = FI - 2
: FI$(FI) = ""
: FI = 200
7030 NEXT
: PRINT CHR$(4)"CLOSE "F$
: RETURN
8000 REM === PRINT FILES TO SCREEN ===
8020 NP% = (FI% + 10) / 9
: P% = 1
8120 GOSUB 90
: ST% = 9 * (P% - 1)
: VTAB 5
: PRINT SPC( 5)"PATH: "PH$
: PRINT SPC( 5)"PAGE: "P%;
: HTAB 20
: PRINT "FILES: "FI% + 1
: PRINT
: PRINT
8130 FOR M = ST% TO ST% + 8
: PRINT SPC( 10)M - ST%":
" LEFT$(FI$(M),30)
: NEXT
8160 VTAB 21

```



```

: PRINT " ENTER NUMBER <> OR ESC >";
: GET K$
: PRINT
: IF K$ = ">" OR K$ = "."
THEN P% = P% + (P% < NP%)
: GOTO 8120
8170 IF K$ = "<" OR K$ = "," THEN
P% = P% - (P% > 1)
: GOTO 8120
8180 ON ASC (K$) = 27 GOTO 2
: ON K$ < "0" OR K$ > "8" GOTO 8120
8200 K = VAL (K$)
: M = K + ST%:NAS = MID$ (FI$(M),2,15):
TY$ = MID$ (FI$(M),18,3): ON NAS = ""
GOTO 8120:TY% = (TY$ = "DIR")
8220 FOR M = 1 TO 15
: IF MID$ (NAS,M,1) = " " THEN L% = M - 1
: M = 15
8230 NEXT
: NAS = LEFT$ (NAS,L%)
8900 RETURN
50000 REM MAIN ENTRYPOINT
50020 D$ = CHR$ (4)
: NMS = " " + CHR$ (14)
: IV$ = CHR$ (24) + CHR$ (15) + " "
50030 NE$ = "0123456789"
50100 DIM
P$(40),TB(20),V$(1,7),VT$(14),FI$(200)
50900 PRINT D$"Prefix"
: INPUT MP$
51010 GOSUB 62010
51020 GOTO 6000
52000 REM === CHECKING FILE ===
52010 ONERR GOTO 52100
52020 P$ = "CHECKING FILE"
: GOSUB 90: IF TY$ < > "SYS" THEN VTAB 10
: HTAB 10
: PRINT "PRODOS MUST BE A SYSTEM FILE"
: FOR M = 0 TO 9999
: NEXT
: GOTO 51020
52040 VTAB 10
: PRINT "FILE: "PH$NAS
: VTAB 12
: PRINT "TYPE: "TY$
52050 FOR M9 = 0 TO 40
: ON P$(M9) = "" GOTO 52090
: PRINT D$"BLOAD"PH$ + NAS",
AS$300,L5,TSYS,B" MID$ (P$(M9),25,5)
52060 FOR M = 2 TO 6
: M8 = PEEK (M + 766) - 128
: IF M8 < 32 THEN M = 98
: GOTO 52070
52061 IF CHR$ (M8) < > MID$ (P$(M9),M,1)
THEN M = 98
52070 NEXT
: ON M = 99 GOTO 52090
: M = M9
: M9 = 98
52090 NEXT
: ON M9 = 99 GOTO 53000
52100 POKE 216,0
: P$ = "Not a recognised version of ProDOS"
: GOSUB 90
: GOSUB 281
: RUN
52120 REM
52990 STOP
53000 REM looks like ProDOS file found so
present screen for editing
53005 PV = M
: POKE 216,0
53020 P$ = "Year table editor for: ProDOS "
+ LEFT$ (P$(M),6)
: GOSUB 90
53040 VTAB 10
: HTAB 25
: PRINT "Reading the current year table"
: PRINT D$"bload "PH$
NAS",a$310,17,tsys,B" MID$ (P$(PV),20,4)

```

```

53060 FOR N1 = 7 TO 13
: TB(N1) = PEEK (N1 + 777)
: NEXT
: GOSUB 90
: GOSUB 53900
: FOR M = 0 TO 6
: TB(M) = TB(M + 7)
: NEXT
: GOSUB 53920
: GOSUB 2000
53080 VTAB 22
: PRINT " Enter < to change table > or ESC to
accept: ";
: GET K$
: PRINT
: ON ASC (K$) = 27 GOTO 53500
53100 IF K$ = ">" OR K$ = "." THEN GOSUB 3000
: GOTO 53200
53110 IF K$ = "<" OR K$ = "," THEN GOSUB 4000
: GOTO 53200
53120 GOTO 53080
53200 GOSUB 90
: GOSUB 53900
: GOSUB 53920
: GOTO 53080
53500 VTAB 21
: PRINT
: PRINT " Are you sure that you want to
update the table <Y/N>";
: GET K$
: PRINT
: GOSUB 89
: ON K$ + 2 GOTO 53700,53500
53520 P$ = "New table writer"
: GOSUB 90
: FOR N1 = 0 TO 6
: POKE N1 + 784,TB(N1)
: NEXT
53540 VTAB 10
: HTAB 25
: PRINT "Writing the new year table"
: PRINT D$"bsave "PH$
+ NAS",a$310,17,tsys,B" MID$ (P$(PV),20,4)
53700 RUN
53900 VTAB 5
: HTAB 10
: PRINT "Current table: ";
: FOR N1 = 7 TO 13
: HTAB 25
: PRINT "19"TB(N1)
: NEXT
: RETURN
53920 VTAB 13
: HTAB 10
: PRINT "Updated table: ";
: FOR N1 = 0 TO 6
: HTAB 25
: PRINT "19"TB(N1)
: NEXT
: RETURN
62000 REM Table of information on known ProDOS
8 versions
62002 REM version Date locations:
62004 REM
62010 P$(10) = "V1.0.1 01-JAN-84 $3076 $04A1"
62020 P$(12) = "V1.0.2 15-FEB-84 $3076 $04A1"
62030 P$(14) = "V1.1.1 18-SEP-84 $2F76 $04F2"
62040 P$(16) = "V1.2 06-SEP-86 $3176 $060C"
62050 P$(18) = "V1.3 02-DEC-86 $3176 $0617"
62060 P$(20) = "V1.4 17-APR-87 $3176 $0617"
62070 P$(22) = "V1.5 02-APR-88 $3176 $0617"
62080 P$(24) = "V1.6 14-JUN-88 $3176 $0617"
62090 P$(26) = "V1.7 08-AUG-88 $3176 $0617"
62100 P$(28) = "V1.8 23-MAY-89 $3276 $0622"
62110 P$(30) = "V1.9 16-JUL-90 $3276 $0651"
62999 RETURN
63999 END

```



Library II Update

The classic Beagle software is now in the Public Domain

Back in the early days of the Apple II, Beagle Bros were just renowned for publishing a range of utilities and other programs for the Apple II and //e. Beagle have now set their sights on the Macintosh computer and are doing less and less for the Apple II these days. As a result of this move they have decided to put their entire collection of Apple II classic programs into the public domain.

We cannot attempt to give a complete description of all the programs here, but be rest assured they are all worth much more than the cost of buying the disk alone. Some of these programs have documentation included on disk. Those that originally came with a printed manual have had this manual transcribed to a text file. The text files for these programs have been put on the first three disks of the series. You will need to purchase the appropriate manual disk if required.

Note:

Some of these disks are DOS 3.3 and others ProDOS. The DOS 3.3 disks will run on any Apple II. The ProDOS disks will usually require a 64k Apple II +, //e, //c or IIs. Some of the disks will require the 80 column card in the //e, //c or IIs. Many of these disks are also double-sided giving even greater value for money!

Disk BE001 /Beagle.Docs.1/=

T.ALPHA.PLOT Documentation for Alpha Plot
T.BEAGLE.BASIC Documentation for Beagle Basic
T.BEAGLE.BAG Documentation for Beagle Bag

Disk BE002 /Beagle.Docs.2/=

T.DOS.BOSS Documentation for DOS Boss
T.FATCAT Documentation for FatCat
T.FLEX.TYPE Documentation for Flex Type

Disk BE003 /Beagle.Docs.3/=

T.EXTRA.K Documentation for Extra.K
T.UTILITY.CITY Documentation for Utility City
T.TIP.DISK Documentation for Tip Disk
T.SILICON.SALAD Documentation for Silicon Salad

Disk BE004 /Alpha.Plot/=

Creates colourful drawings, detailed charts and graphs on the Hi-Res screen.

Disk BE005 /Beagle.Bag/=

A disk full of games for the Apple II including Buzzword, Elevators, Gas Crunch, Hang Person, Magic Pack, Name Game, Oink, Pick-A-Pair, Quick-Draw, Slippery Digits, Sub Search, TextTrain, Triple Digits, Wowzo and Plus.

Disk BE006 /Beagle.Basic/=

The AppleSoft enhancement program. This adds many new commands to Basic under DOS 3.3.

Disk BE007 /Big.U./=

A set of utilities to enhance ProDOS.

Disk BE008 /D.Code/=

A ProDOS utility to debug Basic programs by allowing you to test code, compact listings, compare files etc.

Disk BE009 /Dos.Boss/=

Gives you complete control of DOS 3.3. You can customise the commands and how DOS operates.

Disk BE010 /DoubleTake/=

This double sided disk includes a DOS 3.3 and a ProDOS version of the Double Take program. Double Take allows you to list Basic programs with two-way scrolling and improved listing format.

Disk BE011 /Extra.K/=

This double sided disk includes a powerful set of machine language utilities to harness the power of the extra 64k memory of the Apple //e and //c.

Disk BE012 /FatCat/=

A disk librarian program that reads and organises your DOS 3.3 and ProDOS file names into Master Catalog files. You can then search, sort and print the lists.

Disk BE013 /FlexType/=

A DOS 3.3 program which allows you to format all your I/O into 70, 56, 40 or 20 column widths. It also gives you access to upper and lower case characters.

Disk BE014 /Font.Mechanic/=

This double sided disk is the DOS 3.3 version of Apple Font Mechanic a program that allows you to display large fonts on the Hi-Res screen.

Disk BE015 /Font.Mechanic.Pro/=

A double sided disk. This is the ProDOS version of Apple Font Mechanic.

Disk BE016 /PowerPrint/=

A printer enhancement program that allows you to edit and download custom font sets for a variety of dot matrix printers. An early example of pulldown menus on the Apple III!

Disk BE017 /ProByter/=

A ProDOS disk zap program. Also included are some useful ProDOS utilities.

Disk BE018 /ProntoDos/=

A faster version of DOS 3.3. Loads Hi-Res images with increased speed.

Disk BE019 /ShapeMechanic/=

This double sided disk allows you to use shape tables and fonts within your Hi-Res display. A modified Basic makes using these shapes and fonts easy.

Disk BE020 /Silicon.Salad/=

A multitude of programs from games and general utilities to screen handlers and Basic utilities.

Disk BE021 /Tip.Disk/=

Four books full of handy tips and example programs.

Disk BE022 /Type.Focus/=

Additional typefaces for Apple Type Mechanic.

Disk BE023 /Utility.City/=

A host of utility programs that will teach you how the Apple ticks.

□ Disks are priced at the usual Library price of £3.40 for a single disk. Ten disks will cost £29.37, twenty disks £56.50 and the complete set of twentythree disks for only £65.

The dedicated Apple enthusiast cannot be without the complete set of Beagle disks in their library!

Where in ----- is Carmen Sandiego?

E.E. Littwood revisits this classic and educational adventure game

There are four of these programs from Broderbund for the Apple II series (from the IIe forward). The space in the title being filled with the word(s) 'The World', 'The U.S.A.', 'Europe' and 'Time'. They were I believe developed in that order as well. All four programs are educational games - the first three being geographical and the fourth historical (with geography involved). The programs are on one or two 5 1/4 inch double-sided discs.

The Sleuth Kit

Along with the program there is a thin user's manual, some notes on the characters and a reference book of some description. With 'the world' you get a copy of "The World Almanac and Book of Facts 1991", with 'the USA' you get Fodor's "USA" guide and with 'Europe' you get the "Concise Atlas of Europe" which has more than just maps. With 'time' you get "The New American Desk Encyclopedia". All of these books can of course be useful without running the programs as general reference works. As the programs rely to a certain extent on being able to search reference works for information, that probably determines the minimum age for playing WICS successfully?

The Villain of the Piece

Carmen Sandiego is the leader of an international gang of criminals - Villains' International League of Evil (V.I.L.E.). It is the object of the program to catch the perpetrator of a crime, one of this gang, and so build up status as a detective from gumshoe to ace investigator (maybe, I haven't got that far). This is done by combining clues as to where the criminal has gone and clues about the person, his/her appearance and preferences. The latter set of clues are used to determine which one of the gang has to be arrested.

The Time Zone

Each program has a selection of cities (or countries and time periods in the case of 'time') to which the villain may have gone and at each location you can pick up three clues about the next location the villain has moved to. Possibly, something about them may also come to light - providing that you are in a location to which the villain has been. When sufficient is known about the villain you must get an arrest warrant before coming face to face with them; if you

catch them without the correct warrant the judge sets them free. The arrest warrant is issued if the crime computer is fed with the information about the criminal and it is sufficient to narrow the suspects down to a single V.I.L.E. member.

Flying High

Travel from one location to another is limited by the flights available from the airport (or chronoskimmer list for 'time') which can also narrow down the options when trying to solve the clues if you are not sure of the answers. After sufficient playing presumably more answers get to be known. A time-limit is set in which to catch the villain; if you go over it then you are removed from the case - no promotion this time! The graphics and presentation are fairly straightforward - and in this regard I think the age range is probably directed to late primary school. Contrary to that observation though is that the reference works are adult books with small closely printed pages.

Getting a Taster

Anyway, if we go through a detection from 'Europe', this, hopefully, will give you a flavour of the game. All four follow the same principles although there are minor differences in presentation and detail.

I was asked to sign in at the Acme Agency which I duly did. I was welcomed as the newest recruit, as a gumshoe, and given an office. I couldn't complain, it was light and roomy. It was Tuesday, 10.00 a.m., when the phone rang loudly. What was I to do? There was no-one else in the office so I answered it. It was the chief. Apparently some 'tea leaf' had stolen the art collection of the Princes of Liechtenstein. Furthermore this 'tea leaf' had been a masked woman. As

I was the only one available I had been put on the job but was told that it had to be done by 10.00 a.m. Monday (presumably the Ace detectives would be back from wherever by then).

Where on earth is Liechtenstein I thought. [change to B-side of disc] I didn't need to know as arrangements had already been made to transport me there directly. With the brief guide given on arrival, I learnt that it is actually between Austria and Switzerland and that its capital is Vaduz.

Keeping track of events

Before going any further I made a note in my notebook that the suspect was female. It was important to keep this information to narrow down

the suspects - I'd already eliminated half of the suspects on Interpol's computer!

The scene of the crime

I went to the scene of the crime and searched around. I found a jacket with a red and yellow flag on the back. Where was this from? I accessed the database remotely at the crime lab and found that the Spanish flag had those colours. Tuesday 1.00 p.m., my next step was to interrogate a witness who had spoken to the suspect. She said that the villain had told her she was going to open a black market in the Castile region. A contact of mine would only say 'don't take any wooden pesetas'. Everything pointed to Spain. A flash on my communicator indicated the chief had a message for me - it was to the effect that the suspect was only interested in comic films. I made a note of that at the same time wondering how did the chief know. The Acme Agency had resources that I obviously was not aware of.



Which way to Spain?

At the Airport there was a flight to Madrid (as well as flights to Prague, San Marino and Venice) so I took it. It was Tuesday 7 p.m. When I got off the plane someone, presumably a VILE henchman, took a potshot at me. Fortunately it missed but it did indicate that I was on the right track. The gunman had cleared off when I reached their hiding place but I did find a telegram confirming reservations for a Black Sea resort. It was 8 p.m., that was enough excitement for one day. I turned in after a good meal.

Next morning I was up at 7 a.m. interviewing a witness who said that the suspect had said that she needed a well-earned vacation on the Black Sea. Well-earned? It was clear that the suspect had headed East so it was back to the Airport - what flights were available? There were flights to Brussels, East Berlin, Sofia and Vaduz. None of them on the Black Sea. However Sofia is the capital of Bulgaria which does have a Black Sea coastline. So I bought my ticket for Sofia.

Sofia, so good

Sofia, Wednesday 4.00 p.m., I felt that I was being followed which again suggested that I was on the right track. It was here that I found a wallet containing tickets to 'the world's oldest republic'. But where that was I had no idea. A witness informed me that the suspect was going to a land-locked nation (witness of what so far from the crime). The chief flashed me again to inform me that the suspect had hazel eyes. Why couldn't a witness have told me that? The net was tightening.

The plot thickens

It was Wednesday 6.00 p.m. I went to the Interpol crime lab here in Sofia and fed the notes I had into the computer. It came out with a name and a warrant for her arrest. The 'tea leaf' in question was Kitty Litter. I rang a friend of mine who informed me that Kitty had last been seen travelling along the East Coast of Italy. It was Wednesday, 9.00 p.m. I was exhausted so I went back to the hotel. There I found a telegram from the chief saying suspect only interested in reading about historic events. Who cared, I already had the warrant in my pocket!

Thursday 7.00 a.m., go to airport. Where to? Budapest, Madrid, San Marino, Stockholm or Venice. A quick look at my 'Concise Atlas of Europe' and I was on my way to San Marino. Soon after I arrived it was obvious that Acme detectives were in open season for VILE henchmen - I was obviously getting close. I found a receipt for Limoges china where Kitty had been staying and a witness there said that Kitty had been looking forward to some bubbly in Champagne. A local tipster said that she had received a letter with a Parisian return address.

There was a lot of travelling in this job. Thursday, 4.00 p.m. found me at the airport again. Where to? Lisbon, Marseilles, Sofia and Vaduz were the only destinations. It had to be Marseilles as that was the only place in France which all the clues had indicated.

Justice at last

Thursday, 6.00 p.m., Kitty was sighted and after a car chase was caught and subsequently brought to trial and convicted. I could now return to the office.

There I was congratulated on my success and told that Kitty Litter had been given a long sentence and the art collection returned to its original owners. I was also promoted to Junior Investigator! Not bad after one case. Was I ready for another? No, I needed a well-earned rest.

That's about it. These programs I'm told have won awards of one sort or another although I cannot feel totally convinced that they are targeted consistently. They are obviously a sort of trivial pursuit.

All four programs are available from MGA with a retail price of £29.95 each.

E.E. Littlewood



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NEW! APPLE REPAIR SERVICE - CALL

ModemWorks & ProLine

José A. Accino reviews two
communications products from
Morgan Davis

Introduction

I work as programmer at a Documentation Service giving educational information to students and teachers of all educational levels on our region (around 4500 schools and related centres). We publish our own magazine to diffuse news, but for a long time we have been interested on installing some type of remote access to our Macintosh (what?) supported databases. Then, our needs were not only E-Mail and file transfers as in standard BBS, but a customisable system, with database capabilities and fully translatable to Spanish. Anyway, I collected information on BBS programs for Macintosh (Hermes, Novalink, Mansion, RedRyder Host), and tested some of them, but, after a lot of work, disassembling and questions to Ewen, I found them unreliable and very difficult to translate, lacking also of tools to manage real databases. Then I thought to take the inverse process, using a database package and adding it communications modules, such as some already made XCMDs to FoxBase, or an Oracle database accessed remotely through an HyperCard based comms application. However, those solutions didn't solve our needs on E-Mail and file transfers. Moreover, HC was very slooow running on a Mac Plus, and dedicating a Mac II or SE/30 to run a BBS would be a waste. In any case, all the ways seemed to pass through a large custom-made programming project.

Given it was a "pilot project" to be shown to educational authorities on the regional government, I couldn't waste a long time developing it. What I needed was a system easy to implement, test and modify. Having found an "old" Apple //e left on the shelf of a department and also remembering that "you can't still beat the II series for comms" (Ewen dixit) I began to look for comms software for Apple II. Passing the data from our Macs to the Apple //e wouldn't cause any trouble (there are a lot of ways to make it). I found in TABBS library a shareware BBS software named Magic City Micro (now renamed as

Vantage BBS), written in Applesoft with a set of & routines, AmperWorks, to extend the Applesoft capabilities, and another one, ModemWorks, to deal with communications tasks. I tested it... and it works to first attempt! After all the aforementioned troubles, such success decided me to order ModemWorks from Program Plus. However, as in the price listing there was another product of Morgan Davis, named ProLine, I also ordered it. And here the story begins.

General overview

The AmperWorks/ModemWorks package comes with one 3.5 disk and a manual of 136 pages. ProLine is supplied on three 3.5 disks and the manual is about 250 pages long, in version 1.7. Both manuals are very clear and well written on *reference* style. After a good introduction with installation and getting-started details, you'll get an accurate description of each & command, or ProLine module, giving syntax rules, examples, and so on. All disks are in standard ProDOS format and unprotected. I shall comment that, when requested, Programs Plus warned me that they had only a GS version. However, this is not really true. On the contrary, Morgan Davis told me that both programs are fully compatible with the entire Apple II series, but they ship the software only on 3.5 diskettes (unless otherwise authorised). Both programs are actually compatible with any standard hardware: GS Serial ports, Super Serial or compatible cards, Hayes type modems, ProDOS clocks and hard drives (both required to run ProLine), 3.5 drives, ramdisks, and all the rest. Our own settings are an Apple //e with Serial Pro and 80 columns cards, PC-transporter working as ramdisk and Apple 3.5 drive controller, a DMA SCSI card driving both Diamond and Mirror Syquest drives, and V-Series Hayes Smartmodem.

AmperWorks/ModemWorks

You'll have read something about AmperWorks in Peter Stark's article on MD-Basic in Apple 2000 5(6) (Dec

1990). It's a set of very useful routines to be called through the ampersand (&) feature, in the best tradition of that good old "Routine Machine" from Southwestern Data Systems (See listing 1 for a short description of AmperWorks commands). I have found some of these especially useful, as &/ (slash) to get file information following the structure of ProDOS's Get_File_Info table; &FILES, to put the filenames of a directory on an array; &TIME, to get date and time; &SRT, to sort an array; &MLI to perform ProDOS MLI functions, and some others. You don't actually need AmperWorks for comms, but its commands set makes easy to achieve some common jobs. I don't figure how could I now do any programming project in Applesoft without all those facilities.

On its side, ModemWorks covers almost all the inner tasks of any communications project (Listing 2). How many times did Ewen receive letters from A2000 members looking for help on writing a Basic comms program to solve special requests? If I remember well, the answer is always been the same: "You can't manage communications directly from Applesoft". It's true. With ModemWorks you can now use a simple & call to solve all those awkward tasks related with the communication process: Checking the modem status, picking up the phone, waiting for a carrier, sending and receiving xmodem, checking line status, or hanging up the phone, to say only a few ones, and a lot of "minor" matters, such as paging or performing terminal emulation functions.

Installation

The installation and loading process has no difficult, and the manual is very easy to follow on this matter. Because ModemWorks is able to detect the actual carrier signal, it needs a special modem cable. Also, if you are using an Apple II+, you'll need a little modification to provide a timing signal. All modifications are fully documented on the manual and there isn't problem to make them. The disk also includes drivers for all the most common modem types. You have only to choose the one you need. If you don't find an adequate driver for your modem, rare case, you can use the included *driver.maker* utility to do any changes on an existing driver or to create a new one. On booting the ModemWorks disk you get a Main Menu. Read all the items. Then you can go on and test the included sample programs. You could also read the tips and programming examples given in the manual. They all are very instructive and will provide you with an useful basis to start your own programming project with ModemWorks.

Impressions

Given that both AmperWorks and ModemWorks are a set of programming helps, you should be aware that you can expect results so good only as your own program permit. By itself, ModemWorks is an excellent package to start programming comms from Applesoft. I have found it easy to understand and use, and very reliable (So reliable, in fact, that even Applied Engineering distributes under license portions of ModemWorks with their DataLink modems). To start learning about the inner works of BBS programs and communications in general, you can run the provided demos and also some programs of TABBS library. I've found only a small snag: It lacks of more transfers protocols. In our case, this is not a real problem because we always use xmodem, but some users could like a larger variety. This will be solved in the update to be released later this year, that will include the following seven new protocols: Standard and ProDOS XModem in three versions each one (128-byte packet checksum, 1K packet CRC and 4K packet CRC), and ZModem batch send and receive.

In AmperWorks I have missed a `&FIND` command able to do text searches on both sequential and RATF text files and reporting the field and/or record number matching the search. You may use a combination of existing AmperWorks commands (such as `&READ` and `&POS`) to do the same thing, however, at the loss of some speed, although it will be always faster than normal Applesoft (See appendix A for a comment of Mr. Davis about this matter). Anyway, I think this is not a major drawback. Furthermore, there is no reason to AmperWorks/ModemWorks be incompatible with some other utility packages or `&` routines built as recommended by Apple, although it should be checked on each case.

Our ModemWorks based BBS system has been running well for six months around with no problems (at least not other than those related with wretched phone lines!), and all our users have seen it fast and reliable. However, when the project has come up, I have had to install more features and the program has grown more and more. So I've begun to see the suitability and advantages of changing to a modular structure.

ProLine

Is not easy to define ProLine. However, it can be thought as a large package of communications-oriented tools built on the pattern of UNIX operating system. What does this mean for you? In the first place, the modular structure makes very easy to write your own applications. Just also like a real UNIX system, you have a *shell* to interface between you and all

the commands and functions. A structural view of ProLine would show us ProDOS, Basic System and Applesoft interpreter as the *kernel*, all the modules as *utilities* on next layer, and, finally, the *shell*. Anyone used to UNIX knows that in the technical literature the shell is frequently defined as the most external layer of UNIX systems. Such idea, although very descriptive, is not fully correct, however, because the shell is only the program executed automatically when an user logs into the system, and it runs in the same level that the rest of them. That means that you can write your own shell if you like it so. In fact, Proline comes with two shells (or command interpreters): C-Shell, a command line processor, and PLUSH, or ProLine User Shell, a friendly menu driven shell that you may customise to your own needs. PLUSH could also be defined as a menu manager. It is able to deal with menus, submenus, users's access levels, commands, and more, all in a very polished way. All the menus are contained on a Menu Definition File that you can modify to solve your own needs.

There are even more similarities with real UNIX systems. A very significant one is the ability to execute shell procedures or *scripts*. These are text files containing series of commands to be executed in batch mode. This is not a simple copy of ProDOS EXEC feature, but nearly a programming language with variables and if-then-else control structures.

The UNIX look is also evident on the reference manual. ProLine provides you with an UNIX standard *man* command to give online help about all the commands and functions available on the system. Each command description has *name*, *synopsis* and *description* subheaders, and it can include also others, like *files*, *see also*, *diagnostics*, *bugs*, and *author*. All descriptions are stored in disk files, and the text is generally the same you can read in the printed manual. (I say "generally" because there could be programs or manual updates included on disk and not still present on the printed version of the manual. Use the *whatis* command to see what is actually included in the version you currently have). Besides of the manual, I have got much help from the Spanish edition of Morgan and McGilton's *Introducing UNIX System V* (McGraw-Hill), although any good UNIX manual will provide information you'll find useful to get a better understanding of ProLine.

Installation

Being ProLine based on ModemWorks, it also needs the same custom made cable. A ProDOS compatible clock and a hard drive with at least 5 Mb free are required,

too. On my first attempt to install ProLine with the disks received from Program Plus, I got a consistent I/O error. Checking both the hard drive and the disks, it came out that the original disks were damaged. No problem however. I sent a fax to Morgan Davis and I quickly received a new disks set with an updated version. To install ProLine, you can boot using a backup of the ProLine utilities disk, or running from ProDOS the STARTUP program on the same disk. A Main Menu is displayed on screen and all you need is to follow the prompts and the accurate instructions given on the manual. All the process don't take more than 15 minutes. You'll do better running also the utilities to install the conference system, even if you don't agree with the set of predefined conferences (you can modify or delete them later). I didn't make it so, and when after a few days I ran the conference maintenance module to create the first one, there was no conferences to maintain. Yes, I was wrong because *cs.maint* is not intended to create conferences, but coming back to the utilities disk, it didn't like to install them because they had been already created! The problem was related with the attempt made by the maintenance module to read a data file necessary to run the conferences. Because that file had been OPENED - and created - by the maintenance program, the utilities refused to create a new one. I deleted that file - it was empty - and all worked well again.

Commands overview

Listing 3 shows the set of commands and functions available on ProLine 1.7. Putting aside the shells (*csh* and *plush*) the rest of commands could be divided in two groups. Those of you having some working experience with UNIX systems will easily recognise many standard UNIX utilities, as *cat*, *cron*, *date*, *passwd*, and a lot more. Some of these are not stand-alone applications but built-in C-Shell commands. The second group would consist of comms and networking oriented utilities, such as *addconf*, *adduser*, *batch*, *cspost*, *sendfile*, and so on.

There are a lot to choose, but I could say that I have been especially pleased with *cs*, or Conference System, and *dl*, who stands for Data Librarian.

Just like all the ProLine system, *cs* is powerful but still easy to use. The conference system has a hierarchical structure, with each conference divided in some topics, with a maximum of six. There are three main prompts: *conf*, to list available conferences, *join* one, etc. *read*, to read messages, and *add* to enter your own ones. In addition to *cs* entry on system manual, you can get help

pressing the question mark at any prompt to get the available commands on that level.

I have found *dl* a small gem. After so many cumbersome interfaces found in file libraries, the extensive use of a real library metaphor in *dl* makes it different and very convenient. Each file on library has an index card, fully describing that file with name, type, size, author, and a short synopsis. All files are classified in categories, such as utilities, games, etc., and each category has a card catalog the user can "open" to list the files, or to make a search using key words. *dl* comes with a companion *dl.maint* module to assist the operator in maintaining the library.

Networking

One of the most powerful features of ProLine are those related with networking, but I have not had any chance to test them, because I'm still looking to set the link with the VAX/VMS system on our Computing Centre. I have sent, however, some questions to Mr. Davis about ProLine abilities on networking, among others. See them on appendix A.

Customising ProLine

You can customise ProLine in three levels: Making aesthetics changes, adding new modules, or modifying the existing ones.

The aesthetics changes are very easy to do. The manual includes a list of suggested changes and some tips to make them, such as customising messages and menus, changing the login process, or editing help files, among others.

On next level, ProLine's open architecture makes very easy to add your own modules. The documentation on disk includes a text file named *plapp.doc* with instructions about the very polished method used to pass parameters between applications, and the protocol you must follow to integrate your own modules with the shell and the rest of applications. It's easy to understand, although you'll be more comfortable having some knowledge, and the manual, of AmperWorks and ModemWorks utilities.

Finally, on last level, things are a bit more complicated, because ProLine is written with MD-Basic, resulting in a very compact code, as shown in Peter Stark's article or the examples in Peter Davis's postscript in Aug 91 Apple2000 6(4). This means minimal line numbers, attenuated variable names, and large program lines with as many statements packed as possible, making difficult to follow the program flux. If you have an Apple IIGS, the best solution would be running MD-Basic to decompile the code, doing all the changes, and recompiling back again to Applesoft. If, as myself, you don't have a GS, you

can still modify the code, but you shall be more careful. Probably, you'll have to renumber the lines or even to split the larger ones. Again, take care, because MD-Basic is able to create variable names such as AT (\$41\$54), that when retyped on Applesoft or using an editor as Program Writer, are tokenised to \$C5. Here the trick is to use the OPEN-APPLE-V command of Program Writer (or equivalent in your editor) to get a list of variables, looking for all those "illegal" names, and replacing them for new and unused ones. Be also aware of constructions such as IF A THEN. Again MD-Basic has created that A (\$41) as a variable name, but if you retype it, Applesoft will tokenise it to IF AT THEN, what will mean a nice syntax error at run time. This can be fixed both by putting parenthesis around the variable or replacing it. Anyway, I shall say that I have found only a few of such cases, and they all were in the same module.

Impressions about ProLine

Is not easy to make a full review of all ProLine's features. I have had to left aside things such as the dot commands used to format the manual text to any output device you choose, the output redirection on C-



Shell, the powerful terminal script language or the three text editors available. There also are a lot of minor details to comment about, as the convenient screen saver. However, extending more this article could give you the mistaken impression of ProLine being a system excessive and difficult to use. I can say that I have not still made full use of all ProLine capabilities. However, I have found it very easy to use. You don't have to master all ProLine's commands, functions and script languages to get a fully working system, because ProLine is reliable enough to be practically self maintaining and you can't cause any damage. You can go up from friendly menu driven PLUSH shell to C-shell and scripts, but only if and when you needs it.

Any programming decision is actually a compromise, and being no exception the use of a UNIX model to design ProLine, it gives also some drawbacks. For example, the *passwd* file, that including user names, encrypted passwords and more, is a sequential one, also fully patterned

after the real UNIX *passwd* file. The final user can use some commands to count the number of users, such as *wc*, *lc*, and *who*, but the method used by these applications involves always reading all the file, what is really awkward. On the other side, you will gain in reliability what you lose in speed, because you'll not have the inconsistency problems so common when using "external" counters and pointers.

Also, the modular structure is sometimes a bit slow to pass from a module to another one, although no so much as anyone could figure. Morgan Davis told me that Proline has no provision for loading the entire system onto a RAM disk, but I had no problem making small changes in *config* and Menu Definition files to load and run the applications most frequently used into /RAM. However, I have not found any significant improvement. I think that, because of the process involved to pass parameters from an application to next, you'll get more efficiency using a faster hard drive and SCSI card, or most of all, an accelerator. Mr. Davis has advised me that "using a ProDOS-8 disk cache program, like CacheXL, which comes with Glen Bredon's ProSel utilities, will speed up disk-intensive programs (like ProLine) tremendously. It may prove even more significant than a faster hardware or accelerators, since it overcomes a glaring inefficiency in ProDOS itself - an inordinate amount of head seeking when accessing files".

Being all the comms side based on ModemWorks, you can paste here the above comments about transfers protocols, too. As I said before, the manual is very well written and adequate even for high level users, although for any customising work it would help having some type of "programmer's manual" including details on files structures, machine language routines, or even some advice about what you may modify and what not. (Morgan Davis told me, however, that a programmer's manual could be a later project).

In any case, the advantages given by the UNIX model are greater than any inconveniences. A such modular structure is actually the best platform for communications systems, mainly because of its reliability and ease of expansion. By itself, ProLine has an excellent balance between power and user-friendliness.

Maybe anyone of you remember the small column on page 9 of Apple2000 6(2) of April 1991, where Ewen did a comment about the speed of E-Mail systems. If not, take it a quick look again. All those sites with pro-prefixed are running ProLine! Beagle Bros and A2-Central, among others, have ProLine based BBSs. (Roger Wagner Publishing is also running ProLine, although it may not be

officially announced for customer user yet), and the network still continues to grow. Even without any networking use, ProLine is well worth it, and gives an unbeatable occasion to revive all those Apple II machines who are actually getting dust in the shelf and convert them in a powerful open door to world-wide information. Anyway, see in appendix B some threads and figure what we could get if an European network is finally established.

Comparative conclusions

If ProLine is so good, is still there any reason to buy ModemWorks? Yes, both packages are very well priced and directed to diverse users: ModemWorks provides you with a good and easy introduction to comms tools, and it gives very fine results with little effort. If all you need is a set of machine language routines to solve the comms related problems on your programming project, you'll be fully satisfied with ModemWorks.

On the other side, if you are looking to install a good BBS and mail exchange system with another hosts, and your customisation doesn't go further than creating your own menus, you'll find a lot of power and facilities on using ProLine, mainly because of the large series of commands already made.

Finally, if you are working on a large custom made project and need to write your own programs, I think ProLine is actually the way to get, because its UNIX-like modular structure makes easy adding new applications, but you'll need also the AmperWorks/ModemWorks manual, so you would do better getting both packages.

Both ModemWorks and ProLine are fully supported by Morgan Davis. You can contact him on phone numbers 1(619)670-0563 (voice), 1(619)670-9643 (fax) and 1(619)670-5379 (pro-sol BBS).

José A. Accino

saves you the trouble of having to send your original disks to us, and the long turn-around times in mail. We're presently doing this with our site in France, and it is working well. If this sounds good to you, we just recently released the ProLine 1.8 update. It includes over 100 new and updated programs and files.

Q. Why not a fast text file search command?

A. Most of the ampersand commands are generic (as opposed to specific) in their function. Generalised tools with single, simple tasks make them far more flexible (and have a lower impact on memory usage). A number of questions arise in implementing a tool that you propose. Once you found a match, what do you do? Set a numeric variable? Return the matching line into a string variable? Return the file position of the match? Return the position of the line containing the match? Return a count of all matches? All the above? Case sensitive or not? Creating a tool with just one of these features might be useful for someone, but certainly not for everyone. I would have to consider making the tool do all of these things, because it would be inevitable that each feature would be requested by other users in time. Such a tool would take up a lot of memory, and would have only a limited use. It would be best to write a 6502 program that is specific to your application and keep it separate from AmperWorks.

Q. What if I wanted to write some machine language programs for ProLine?

A. Since ProLine is built on ModemWorks, you'll find information for creating your own machine language programs and a memory map in the ModemWorks manual. In a future release of ProLine, we'll be making it very easy to add machine language routines, so you may want to wait a while before starting any projects.

Q. Do I have the means to exchange mail with a UNIX or VAX host?

A. Yes. It requires quite a bit of cooperation from your local host, however. ProLine comes with an archive called UNIXMDSS.SHK. Unshrink this to find out more about implementing a UNIX send and receive for MDSS. We are currently testing and debugging a VAX/VMS MDSS program right now. It seems to be working well, but it isn't completed yet.

Q. How can I send mail from a UNIX host to a ProLine site?

A. If you have an account on a UNIX machine that has full UUCP or Internet access, you can reach any ProLine site on the network. For

example, from your host you could send mail to my account on pro-sol, since pro-sol is on the Internet. Address your message to mdavis@pro-sol.ets.com (for Internet routing), or crash!pro-sol!mdavis (for UUCP routing).

Q. How about Compuserve?

A. You can send mail from any Internet site (which means from any ProLine site as well) to an account on Compuserve. The address format is XXXXX.YYY@Compuserve.com where XXXXX.YYY is the user's Compuserve account number (note that a period is used instead of a comma). You can also send mail to anyone on AppleLink by addressing it to: USERNAME@AppleLink.apple.com

(Appendices continued overleaf)



info

Product : ModemWorks
Publisher : Morgan Davis
Available from :
Morgan Davis Group
10079 Nuerto Lane
Rancho San Diego
California 91977-7132
USA

Price : \$59.95 direct
\$89.95 retail

Value : ★★★★★
Performance : ★★★★★
Documentation : ★★★★★

info

Product : ProLine
Publisher : Morgan Davis
Available from :
Morgan Davis Group
10079 Nuerto Lane
Rancho San Diego
California 91977-7132
USA

Price : \$195.50 direct
\$259.95 retail

Value : ★★★★★
Performance : ★★★★★
Documentation : ★★★★★

Appendix A:

Questions and answers

I have had some E-Mail and fax exchange with Mr. Davis. I think it could be of interest to include here, with his permission, some questions I sent and his answers.

Q. How do I receive updates?

A. Generally, updates are free. You send us your original disks, and we'll send updated copies back to you. However, since this is more difficult overseas, we've have adopted a European update policy. For \$50 U.S. each year, we'll send out updates as they become available, about four times a year. This covers our costs for disks, mailers and shipping, and

Appendix B: Networked topics from ProLine:

Listing 1:

AmperWorks commands (version 2.3. Latest is 2.4)

| | |
|--------------|--|
| / ^ | Get file information |
| \ | Set file information |
| < | Return the parent path of a file |
| ADD | Add a file to the end of another file |
| ASC | Convert a string's character to ASCII text |
| COPY | Copy a file to another file |
| ERASE | Erase an array from memory |
| FILES | Read a directory's filenames into a string array |
| FRE | Remove AmperWorks from memory |
| GET | Read characters into a string variable (no filtering, no echo) |
| HLIN | Draw a horizontal line with a character |
| LEFT\$ | Left-justify a string within a field |
| LIST | Display the contents of a file |
| LCASE | Convert a string's uppercase characters to lowercase |
| MID\$ | Change the mid-portion of a string |
| MLI | Perform a ProDOS MLI function |
| ONERR | Fix ONERR bug and return error code an line number |
| POKE | Poke a set of numeric values into memory |
| POP | Reset Applesoft's stack |
| POS | Find the position of a pattern within a string |
| READ | Read characters into a string array |
| REPT | Mark the beginning of a REPT-UNTIL block |
| RESTORE | Restore the contents of a memory storage cell |
| RESTORE GOTO | get the line of the next DATA statement |
| RIGHT\$ | Right-justify |
| SPC | Strip spaces, or other characters, from the ends of a string |
| SRT | Sort a numeric or string array |
| STORE | Store a string into a memory storage cell |
| SWAP | Swap the values of two variables |
| TFILES | Read a directory's filenames into an array (special) |
| TIME | Return the date and time |
| UCASE | Convert a string variable's lowercase characters to uppercase |
| UNTIL | Mark the end of a REPT-UNTIL loop |
| VLIN | Draw a vertical line with a character |

Listing 2:

ModemWorks commands (version 2.1)

| | |
|-------------|---|
| AND | Mask bits on output characters |
| BEEP | Change pitch and duration of the speaker's beep |
| BREAK | Perform a modem break |
| CALL | Dial a phone number |
| CHK ON | |
| CHK STOP | Toggle carrier checking |
| CHR\$ | Set prefix key (or terminal escape key) |
| CLEAR | Flush keyboard and modem type-ahead buffer |
| FAST | Speed up the processor to its faster rate |
| FLASH CHR\$ | |
| FLASH INT | Change the flashing cursor character and flash interval |
| FN | Return function results from modem driver |
| FRE | Remove ModemWorks, shutdown the driver |

| | |
|-----------------------|---|
| GOTO | Move the cursor on the local console |
| HANGUP | Disconnect modem, drop carrier |
| INPUT | Set the input switch |
| INT | Return the cancel key character |
| INT ON | |
| INT STOP | Toggle interrupt key trapping |
| INT= | Define up to eight cancel keys |
| IOCTL | Perform a terminal emulation function |
| LF | Control linefeeds sent after carriage returns |
| NULLS | Set the number of nulls sent after a carriage return |
| ON INT GOTO | Set the line to GOTO when a cancel key is pressed |
| OUTPUT | Set the output switch |
| PAGE CLEAR | |
| PAGE DEF. | |
| PAGE LEN | |
| PAGE ON | |
| PAGE STOP | |
| PAGE\$= | Commands to facilitate screen paging |
| PDL | Turn on shift-key modification recognition |
| PICKUP | Lift the phone and send a carrier |
| PUT | Send a string of characters to the modem |
| RCV | Receive a file using XModem protocol |
| REM | Go into remote unattended mode |
| SCRN | Select the type of output display |
| SLOT | Specify the slot of the modem or interface card |
| SLOW | Slow down the Apple IIGS to normal Apple speed |
| SND | Send a file using XModem protocol |
| SPEED= | Set the modem and/or port speed |
| TAB | Set the tab character expansion/preservation |
| TERM | Enter terminal mode |
| TIMER | |
| TIMER ON | |
| TIMER STOP | Commands to control timer duration and activity |
| TRACE | Specify the "exit to Basic" safeguard attributes |
| TSET | Give the address in memory of terminal template |
| USR | Perform a modem-specific procedure |
| WAIT | Pause for a specified number of seconds |
| WAIT FOR | Wait for a string to come in through the modem |
| WAIT FOR CALL | Wait for a call on the phone line |
| WAIT FOR CARRIER | Wait for a carrier signal or connection result from the modem |
| WHEN NOT ON LINE GOTO | Specify the line to GOTO when carrier is lost |

Listing 3:

ProLine (version 1.7)

| | |
|----------------|---|
| add | append files |
| addconf | add a conference |
| addtopic | add a topic to the conference system |
| adduser | procedure for adding new users |
| af | add a fortune to the fortunes file |
| alias, unalias | alias or unalias command names |
| banner | print message using big letters |
| basic | run the BASIC interpreter |
| batch | process news mailboxes into newsgroup bundles |
| boot | reboot the system, or launch new application |
| calls | report system usage statistics |
| cat | concatenate and print |
| cd | change working directory |
| chat | chat with operator |
| chmod | change mode |

| | | | |
|----------------|--|--------------------|--|
| chtyp | change the type of a file | scan | scan network mailboxes for outgoing mail |
| config | description of system configuration file | sched | scheduler |
| cp | copy a file | scripts | link multiple commands to one file |
| cron, crontab | execute timed tasks | sendfile | send a text file through the mail |
| cs | conference system | sendmail | send queued mail to local or remote mailboxes |
| cs.maint | conference system maintenance program | server | process file server requests |
| csd | command shell | set, unset | set or unset shell variables |
| cspost | post inbound mail to a CS area | setenv | set terminal environment |
| ctime | show connect time and accounting info | setfile | set file attributes |
| date | display system date | sleep | suspend execution for an interval |
| df | disk free | sm | smartmodem command |
| dial | a terminal program | sort | sort a file |
| dl | data librarian | source | read shell commands from a file |
| dl.maint | data librarian maintenance program | split | split a file into roughly equal sized pieces |
| dl.make | data library installation program | stty | set terminal options |
| dstat | directory access status | sweep | file management utility |
| du | summarise disk usage | sync | synchronizes system clock to an atomic standard |
| echo | echo text arguments | tail | deliver the last part of a file |
| ed | invokes the text editor | today | print historical events for today's date |
| edit | edit a text file | trim | trim mailbox headers |
| eduser | edit a user's account information | tset | install a terminal for emulation |
| err | describe what an error number means | unbatch | process the rnews mailbox into newsgroup bundles |
| find | find files | unpar | unpack a ProLine archive file |
| flip | flag inactive persons for removal | usage | Calculate statistics based on initiated polls |
| fortune | print a random, hopefully interesting, adage | uuencode, uudecode | encode/decode a binary file for mailing |
| fsort | sort the fortunes database | variables | description of variables for csh |
| gid | group id - utility program | vedit | visual full screen editor |
| grep | search a file for a pattern | wc | word count |
| help | get help | whatis | describe what a command is |
| if | test expression and perform commands if true | who | who is on the system |
| import, export | text file filters | xmodem | file transfer utility |
| it | IntelTerm Pro terminal program | | |
| ite | IntelTerm Pro script Compiler | | |
| lc | line counter | | |
| log | display log files | | |
| login | sign on | | |
| logout | terminate connection | | |
| lpr | print file(s) on printer in slot #1 | | |
| ls | list contents of directory | | |
| mail | manage electronic mail | | |
| mail.aliases | description of mail alias files | | |
| maint | perform daily system maintenance | | |
| makewhatis | make the whatis database | | |
| man | display pages from the system manual | | |
| manuals | description of system manuals | | |
| mdss | mail delivery subsystem file exchange | | |
| mkdir | make a directory | | |
| mnews | poll MCI Mail for news headlines | | |
| mv | move a file | | |
| netauth | manage network mail access | | |
| networking | the ProLine guide to networking | | |
| news | manage system news files | | |
| notice | print out a notice | | |
| od | output dump in hex | | |
| par | create a ProLine ARchive | | |
| passwd | change login password | | |
| pc | programmable calculator | | |
| play | play a game | | |
| plush | ProLine User's Shell | | |
| poll | poll a site | | |
| postnews | post newsgroup bundles to local news areas | | |
| pwd | working directory name | | |
| rcp | remote file copy | | |
| ren | rename a file | | |
| rm, rmdir | remove files or directories | | |
| rmail | handle uuap-formatted mail received via mdss | | |
| rmconf | remove a conference | | |
| rmtopic | remove a topic from a conference | | |
| rmuser | remove users from the system | | |
| rnews | distribute newsgroup bundles | | |
| safecom | encode or decode a text file | | |

AppleLink TidBits

Converting Apple III Text Files to Macintosh

TOPIC

I'm trying to transfer some text files on Apple III disks to 3.5-inch floppy disks so I can open the files on a Macintosh. What cables and software are needed for this?

DISCUSSION

If you still have the Apple III, the files can be transferred using Access III, MacTerminal, and either cable (Apple Part #) 590-0555 or cables 590-0169 AND 590-0550.

If using the Apple III serial card, have the card set to no modem eliminator.

If using the built-in port C, make sure you're using the .RS-232 driver rather than the .PRINTER driver. You can find the .RS-232 driver for the built-in port C on the System Utilities Data disk.

Make sure both systems are set for the same baud rate, data bits, and so forth, and then simply set one system up to send a file and the other one to receive a file.

If only the disks are available, you can use this method. Because Apple III SOS and Apple II ProDOS are file-compatible, using an Apple IIe, Apple IIGS, or Apple IIc with both a 5.25-inch disk drive and a 3.5-inch disk drive, transfer the files to a 3.5-inch disk. Use AFE to transfer the files to the Macintosh disk.

Both of these options assume that the files are text-only. If they are QuickFile or Three Easy Pieces files, see the Tech Info Library for instruction on converting the files to Microsoft Works.

Another option would be to have an outside service, such as Pivar, convert the files for you.

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Apple II Historical Listing of Software by Apple

| APPLICATION | CURRENT VERSION | DATE RELEASED | PART NUMBER | PRODUCT NUMBER |
|------------------------------------|--------------------|------------------|--------------------------|-------------------|
| AppleCD SC IIe Setup Disk | 1.0 | Apr 18 88 | 680-3085-A | |
| AppleCD SC IIGS Setup Disk | 1.0 | Apr 18 88 | 690-5195-A | |
| Access II | | | | D2D4053/A |
| Apple Access II | 1.2 | Sep 23 86 | 680-0276-A 680-3002-C | |
| Apple Access II | 1.3.1 | Nov 30 88 | 680-3-22-A (5 1/4") | |
| Apple Access II | 1.3.1 | Nov 30 88 | 680-5005-A (3 1/2") | |
| Training Disk | 1.3.1 | Jan 30 89 | 680-3023-A (5 1/4") | |
| Training Disk | 1.3.1 | Jan 30 89 | 680-5048-A (3 1/2") | |
| Apple Presents Access II | 1.1 | Apr 30 85 | 005-3017-B | |
| Apple IIc | | | | |
| The Apple IIc at Play | 1.2 | Dec 12 86 | 005-3003-C | |
| Inside Story | 1.1 | Nov 30 84 | 005-3007-B | |
| Apple IIc+ PTD | 1.0 | Jun 06 88 | 680-5015-A | |
| Apple at Work-80 Col, Apple IIc | 1.0 | Jun 27 86 | 005-3004-C | |
| Apple IIe | | | | |
| Introduction to the Apple IIe | 2.0 | Jun 20 86 | 005-3108-A | |
| Inside Story | 2.0 | Jun 12 86 | 005-3107-A | |
| Apple Presents the Apple IIe | 1.1 | Dec 18 84 | 005-3085-A | |
| Apple IIGS System Disk | 3.1.1D1 | Feb 17 88 | | |
| Apple IIGS System Disk | 2.0 | May 20 87 | 680-5009-C | |
| ProDOS 16 | 1.1 | Dec 3 86 | | |
| ProDOS 8 | 1.4 | Apr 17 87 | | |
| Apple IIGS BASIC | 1.0B4 | Sep 15 87 | 007-0250-A | |
| Apple Tour of the Apple IIGS | 1.0 | Oct 10 86 | 680-5010-A | |
| Apple Education Classics | 1.0 | Mar 21 84 | 005-3030-A | |
| Apple LOGO II | | | | |
| Apple LOGO II (128K) | 1.1 | Nov 12 84 | 005-3010-B | A2D4502 |
| Apple Presents Apple LOGO II | 1.0 | Jan 23 84 | 005-3008-A | |
| Apple Presents Apple LOGO II | 1.0 | Jan 23 84 | 005-3009-A | |
| AppleSoft BASIC | | | | |
| ProDOS AppleSoft Sampler | 1.2 | Mar 5 85 | 005-3021-C | |
| ProDOS BASIC Prog. Examples | 1.1 | Oct 26 84 | 005-3023-B | |
| ProDOS AppleSoft CI (BASIC.SYSTEM) | 1.1 | Jun 18 84 | 005-0021-B | |
| Getting Down to BASIC IIe | 1.1 | Jun 12 86 | 005-3105-A | |
| ProDOS AppleSoft Prog. Asst. (APA) | 1.4 | Jun 28 84 | 005-0101-A | |
| Apple Writer | | | | C2B2015 |
| Apple Writer II | 2.1 | Dec 12 84 | 005-3071-B | |
| Apple Presents (40 COL) | 1.0 | May 22 84 | 005-3066-A | |
| Apple Presents (80 COL) | 1.0 | May 1 84 | 005-3072-A | |
| Aristotle Menu Mngmt Software | 1.0 | May 5 88 | 683-5100-A | |
| Backup II | 1.1.1 | Oct 24 85 | 680-0220-D | |
| Bi-Sync Terminal 3270 | 1.0 | Mar 14 88 | 005-3043-A | |
| Console Driver / User Input | | | | |
| User Input Common Source | 1.0 | Jan 6 86 | 005-0030-A | |
| User Input Routine ASSEMBLER | 1.0 | Jan 16 86 | 007-0031-A | |
| User Input Routine BASIC | 1.0 | Jan 14 86 | 007-0033-A | |
| User Input Routine Pascal | 1.0 | Jan 6 86 | 007-0032-A | |
| ConsoleStuff Pascal Unit | 1.0 | Jan 14 86 | 007-0034-A | |
| DOS Programmer's Toolkit | Rev B. | Oct 20 88 | 680-0292-B | |
| Dow Jones News & Quotes Reporter | 2.0.1 | Jun 20 84 | 680-0053-D | N/A |
| Educational Demo Apple IIGS | 1.0 | Oct 14 86 | 007-0143-A | |
| Emulator, 2780 | 1.0 | Jan 3 84 | 680-0226-A | |
| Emulator, 3780 | 1.0 | Jan 3 84 | 680-0264-A | |
| Fortran II | Rev.B | Feb 21 85 | 680-0047-B | N/A |
| Getting Down to BASIC | 1.0 | Jun 12 86 | 005-3015-A | |
| Inside Story, Apple IIe | 2.0 | Jun 12 86 | 005-3107-A | |
| Inside Story, Apple IIc | 1.1 | Nov 30 84 | 005-3007-B | |

| | | | | |
|---|---------|-----------|------------|---------|
| Instant Pascal | | | | A2D4504 |
| Instant Pascal Startup | 1.5 | Dec 11 86 | 005-3095-B | |
| Instant Pascal Master | 1.5 | Dec 11 86 | 005-3096-B | |
| Instant Pascal SAMPLES1 | 1.0 | Dec 11 86 | 005-3097-A | |
| Instant Pascal SAMPLES2 | 1.0 | Dec 11 86 | 005-3098-A | |
| Instant Pascal Startup 3.5" | 1.5 | Dec 11 86 | 680-5028-A | |
| Apple Presents (Mouse) | 1.0 | Aug 22 85 | 691-0013-A | |
| Apple Presents (Keyboard) | 1.0 | Aug 22 85 | 691-0028-A | |
| Logo II | 1.1 | Nov 12 84 | 005-3010-B | |
| Logo II, Apple Presents | 1.0 | Jan 23 84 | 005-3009-A | |
| Logo II, Apple Presents | 1.0 | Jan 23 84 | 005-3008-A | |
| MousePaint | 1.2 | Apr 10 85 | 005-3029-C | |
| MouseText / MouseGraphics | | | | |
| MouseGraphics ToolKit - All Pascal 1.2 | 1.0.0B6 | Aug 21 85 | 005-3103-A | |
| MouseText ToolKit | 2.2 | Jan 31 86 | 007-0057-B | |
| Pascal MouseText ToolKit | 2.2 | Feb 3 86 | 007-0058-B | |
| Pascal Mouse Attach Driver | 1.0 | Jul 3 84 | 005-0103-A | |
| File Card Menu Support Library Unit | 1.0 | Jan 15 86 | 007-0035-A | |
| Pascal II | | | | A2W0016 |
| Development System - APPLE0: | 1.3 | Sep 3 85 | 680-0282-A | |
| Development System - APPLE1: | 1.3 | Sep 3 85 | 680-0283-A | |
| Development System - APPLE2: | 1.3 | Sep 3 85 | 680-0284-A | |
| Development System - APPLE3: | 1.3 | Sep 3 85 | 680-0290-A | |
| Development System - 3.5" | 1.3 | Sep 3 85 | 680-5003-A | |
| Pascal Device Support Tools | 1.1 | Aug 14 84 | 005-3057-B | |
| Pascal Profile Manager | 1.0.2 | Apr 9 84 | 005-0037-C | |
| Pascal Profile Manager | 1.0.2 | Apr 9 84 | 005-0038-C | |
| Pascal Attach Tools | 1.3 | Sep 3 85 | 005-0032-C | |
| Pascal ProDOS Access Unit | 1.2 | Oct 7 85 | 007-0006-C | |
| Programmer's Introduction to the Apple IIGS Sample Disk | 4.0 | Feb 02 88 | 690-5230-A | |
| Programmer's Introduction to The Apple IIGS Sample Disk | 4.1 | Aug 01 88 | 690-5230-B | |
| Programmer's ToolKit / Assembler Tools | | | | |
| DOS Programmer's ToolKit | Rev.B | Oct 20 83 | 680-0212-B | |
| DOS Programmer's ToolKit | Rev.B | Oct 20 83 | 680-0292-B | |
| ProDOS Assembler Tools | 1.1 | Jun 6 85 | 005-3042-B | A2W0013 |
| ProDOS | | | | |
| ProDOS Kernel (PRODOS) | 1.1.1 | Sep 18 84 | 005-0020-F | |
| ProDOS Exerciser's Disk | 1.0.2 | Mar 5 85 | 005-3039-C | |
| ProDOS User's Disk | 1.1.2 | Feb 5 85 | 680-0224-E | |
| ProDOS Convert (CONVERT) | 1.2 | Feb 5 85 | 005-0024-B | |
| ProDOS Filer (FILER) | 1.1 | Jun 18 84 | 005-0023-E | |
| Update Utility for ProDOS | 1.1.1 | Sep 18 84 | 005-0100-B | |
| ProDOS AppleSoft Sampler | 1.3 | Mar 5 85 | 005-3021-C | |
| ProDOS BASIC Program Examples | 1.1 | Oct 26 84 | 005-3023-B | |
| Programmer's Introduction to the Apple IIGS Sample Disk | 4.0 | Feb 02 88 | 690-5230-A | |
| Programmer's Introduction to the Apple IIGS Sample Disk | 4.1 | Aug 01 88 | 690-5230-B | |
| Sales Demo, Apple IIGS | 1.0 | Sep 19 86 | 007-0124-A | |
| SANE | | | | |
| SANE, Apple Pascal | 1.0 | Sep 22 83 | 680-0237-A | |
| ELEMS For A II & A III | 1.1 | Sep 21 83 | 005-0025-A | |
| APPL2.SANE | 1.0 | Sep 21 83 | 005-0027-A | |
| SCSI Card Utilities Disk | 1.0 | Feb 18 88 | 680-5037-A | |
| SCSI Hard Disk Test Program 3.5 | 1.0 | Aug 6 86 | 680-5023-A | |
| SCSI Hard Disk Test Program 5.25 | 1.0 | Aug 6 86 | 680-5024-A | |
| SuperPilot Log | 1.1 | Jun 25 84 | 680-0172-B | A2D2050 |
| System Disk, Apple II | 3.1 | Apr 14 86 | 680-5017-B | |
| System Disk, Apple IIe, IIc | 3.0 | Jul 17 87 | 680-5031-A | |
| System Disk, Apple IIGS | 3.1.1 | Mar 10 88 | 680-5009-G | |
| System Utilities (IIc, IIe)3.5" | 2.1.2 | Mar 3 86 | 680-5011-E | |
| System Utilities (IIc, IIe)5.25" | 2.1.2 | Mar 3 86 | 005-3019-E | |
| WorkStation Disk | 1.0 | Apr 20 88 | 683-5096-A | |
| WorkStation Disk, Apple IIGS | 1.0 | Jun 24 88 | 680-5041-A | |
| VideoMix for the Apple IIc | 1.0 | Mar 02 89 | | |
| VideoMix for the Apple IIGS | 1.0 | Mar 06 89 | | |
| Your Tour of the Apple IIGS | 1.0 | Oct 10 86 | 680-5010-A | |

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Hotline News



Even though ProDOS has been the only operating system that Apple Computer Inc. have supported since 1984 there appear to be plenty of DOS 3.3 users still around! A question that comes up occasionally is how to increase the storage on a 5.25" diskette. A normal DOS 3.3 diskette contains the operating system on the first three tracks (0,1,2) and uses a whole track (\$11) for the catalog.

Clearly there is much wasted space here. If you want a data diskette then the operating system overhead is totally unwanted and programs that appeared as early as 1981 such as Super Disk Copy III had a routine to produce diskettes with tracks 1 & 2 free, giving an extra 8K of storage! There are four ways that can increase the storage on a 5.25" diskette which will be listed below:

1) DOS 3.3 does not use sectors \$A-\$F on track 2 which can be freed up to give 1.5K more storage.

2) If you just want a data diskette then tracks 1 & 2 can be removed to give 8K more storage. Track 0 is extremely difficult to free up without much work. We'll forget this extra 4K!!

3) Track \$11 is used by the catalog. Sector \$0 is the bitmap and MUST be present. Sectors \$F down to sector \$1 hold the catalog with each sector holding 7 file references making a total of 105. If you don't need 105 files, who does, then you may free up some of these. If only 7 files are needed then you can get an extra 3.5K of storage.

4) Most 5.25" drives will actually read an extra track \$23 or 35 in decimal. If yours will, you get a free extra 4K. Super Disk Copy actually recognises this extra track!!!

If you want a data diskette and free up as much as possible you can get up to 15.5K and even for a bootable diskette you'll get 9K or 36 sectors!!

Let us see how these can be implemented: You will need a sector editor, there are many of these available, but I use ZAP from the Bag-of-Tricks diskette published by Quality Software.

The last option of making 36 track diskettes is the easy bit all you need to do is to boot up a DOS 3.3 or Diversi-DOS master diskette and when at the Applesoft prompt just type in the following:

1) POKE 48894,36 - This initialises another track.

2) POKE 47725,144 - This is simply 4*36! and makes sure that the bitmap on track \$F sector \$0 reflects 36 tracks!

Now all you do is to INITIALISE the diskette!! EG JINIT HELLO

Your drive may accept up to 40 tracks and the changes to do this are

obvious.

Your DOS will now always initialise diskettes with 36 or more tracks.

Peter Green told me how to modify COPYA so that it will copy these extended diskettes; for a 36 track diskette add the following line:

71 POKE 48894,36; POKE 863,36

Releasing sectors on normal tracks on a diskette requires writing to the bitmap on track \$11 sector \$00. Listed in Figure 1 is a dump of a typical bitmap sector from a DOS 3.3 diskette.

Listed across the top are the low nibbles of the byte and down the table on the left-hand side are the high nibbles of the bytes. For any byte in the table just add the two values in the row and column. For instance the upper left-hand byte is \$00+\$0=\$00 whereas the bottom right-hand byte is \$F0+\$F=\$FF. Note that byte \$FF has the value zero. The bitmap for each track starts at byte \$38 and consists of 4 bytes. Counting in groups of 4 bytes you'll find track 3 has its bitmap at \$44 with the byte values FFFF0000 or in binary (F = 1111):

11111111111111111000000000000000
each bit represents a single sector and the value 1=free; 0=used. Actually only the first 2 bytes (16 bits) are used since tracks on DOS 3.3 diskettes only have 16 sectors. Perhaps the authors of DOS 3.3, Steve Wozniak and Randy Wigginton, anticipated that double density or double sided disk drives might one day appear!!

The 11111111111111111111 correspond to the sectors: FEDCBA9876543210

We can now free tracks 1 & 2 by placing FFFF0000FFFF0000 at byte \$3C. Which can be seen in the dump in Figure 2! Now freeing only part of DOS image which is unused on track 2 is quite simple. Sectors A to F can be set free by writing 11111100000000 = FC00 at \$40 which is done in Figure 3.

Freeing up part of the CATALOG track \$11 (decimal 17) is only a little more difficult. First you must decide the number of files you will want to store on the disk. Lets say you'll want 12. As there are 7 per sector that means you'll want to reserve just two sectors FE and, of course, sector zero. The bitmap of track \$11 starts at \$7C and will be: 0011111111111110

FEDCBA9876543210

So store 3FFE0000 at \$7C. See Figure 4. There is just one more thing to do. The catalog sectors are chained together so that DOS knows where to go when has filled up a sector. If you examine one of these you will see the pointer to the next track/sector; the last one in the list is just zero track/sector. So read in the last sector in your catalog sector E in this case and make sure that it is all zeroes and then write it back.

It would be very easy to write a small Applesoft program to automate these techniques. If a sufficient number of members are interested I'll write one and present it later.

Dave Ward

Figure 1

| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | A | B | C | D | E | F |
|----|----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 00 | 04110F030000FE000000000000000000 | | | | | | | | | | | | | | | |
| 10 | 00000000000000000000000000000000 | | | | | | | | | | | | | | | |
| 20 | 000000007A0000000000000000000000 | | | | | | | | | | | | | | | |
| 30 | 12010000241000010000000000000000 | | | | | | | | | | | | | | | |
| 40 | 00000000FFFF0000FFFF0000FFFF0000 | | | | | | | | | | | | | | | |
| 50 | FFFF0000FFFF0000FFFF0000FFFF0000 | | | | | | | | | | | | | | | |
| 60 | FFFF0000FFFF0000FFFF0000FFFF0000 | | | | | | | | | | | | | | | |
| 70 | FFFF0000FFFF0000FFFF0000FFFF0000 | | | | | | | | | | | | | | | |
| 80 | FFFF0000FFFF0000FFFF0000FFFF0000 | | | | | | | | | | | | | | | |
| 90 | FFFF0000FFFF0000FFFF0000FFFF0000 | | | | | | | | | | | | | | | |
| A0 | FFFF0000FFFF0000FFFF0000FFFF0000 | | | | | | | | | | | | | | | |
| B0 | FFFF0000FFFF0000FFFF0000FFFF0000 | | | | | | | | | | | | | | | |
| C0 | FFFF0000FFFF0000FFFF0000FFFF0000 | | | | | | | | | | | | | | | |
| D0 | 00000000000000000000000000000000 | | | | | | | | | | | | | | | |
| E0 | 00000000000000000000000000000000 | | | | | | | | | | | | | | | |
| F0 | 00000000000000000000000000000000 | | | | | | | | | | | | | | | |

Figure 2

| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | A | B | C | D | E | F |
|----|----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 00 | 04110F030000FE000000000000000000 | | | | | | | | | | | | | | | |
| 10 | 00000000000000000000000000000000 | | | | | | | | | | | | | | | |
| 20 | 000000007A0000000000000000000000 | | | | | | | | | | | | | | | |
| 30 | 120100002410000100000000FFFF0000 | | | | | | | | | | | | | | | |
| 40 | FFFF0000FFFF0000FFFF0000FFFF0000 | | | | | | | | | | | | | | | |
| 50 | FFFF0000FFFF0000FFFF0000FFFF0000 | | | | | | | | | | | | | | | |
| 60 | FFFF0000FFFF0000FFFF0000FFFF0000 | | | | | | | | | | | | | | | |
| 70 | FFFF0000FFFF0000FFFF0000FFFF0000 | | | | | | | | | | | | | | | |
| 80 | FFFF0000FFFF0000FFFF0000FFFF0000 | | | | | | | | | | | | | | | |
| 90 | FFFF0000FFFF0000FFFF0000FFFF0000 | | | | | | | | | | | | | | | |
| A0 | FFFF0000FFFF0000FFFF0000FFFF0000 | | | | | | | | | | | | | | | |
| B0 | FFFF0000FFFF0000FFFF0000FFFF0000 | | | | | | | | | | | | | | | |
| C0 | FFFF0000FFFF0000FFFF0000FFFF0000 | | | | | | | | | | | | | | | |
| D0 | 00000000000000000000000000000000 | | | | | | | | | | | | | | | |
| E0 | 00000000000000000000000000000000 | | | | | | | | | | | | | | | |
| F0 | 00000000000000000000000000000000 | | | | | | | | | | | | | | | |

Figure 3

| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | A | B | C | D | E | F |
|----|----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 00 | 04110F030000FE000000000000000000 | | | | | | | | | | | | | | | |
| 10 | 00000000000000000000000000000000 | | | | | | | | | | | | | | | |
| 20 | 000000007A0000000000000000000000 | | | | | | | | | | | | | | | |
| 30 | 12010000241000010000000000000000 | | | | | | | | | | | | | | | |
| 40 | FC000000FFFF0000FFFF0000FFFF0000 | | | | | | | | | | | | | | | |
| 50 | FFFF0000FFFF0000FFFF0000FFFF0000 | | | | | | | | | | | | | | | |
| 60 | FFFF0000FFFF0000FFFF0000FFFF0000 | | | | | | | | | | | | | | | |
| 70 | FFFF0000FFFF0000FFFF0000FFFF0000 | | | | | | | | | | | | | | | |
| 80 | FFFF0000FFFF0000FFFF0000FFFF0000 | | | | | | | | | | | | | | | |
| 90 | FFFF0000FFFF0000FFFF0000FFFF0000 | | | | | | | | | | | | | | | |
| A0 | FFFF0000FFFF0000FFFF0000FFFF0000 | | | | | | | | | | | | | | | |
| B0 | FFFF0000FFFF0000FFFF0000FFFF0000 | | | | | | | | | | | | | | | |
| C0 | FFFF0000FFFF0000FFFF0000FFFF0000 | | | | | | | | | | | | | | | |
| D0 | 00000000000000000000000000000000 | | | | | | | | | | | | | | | |
| E0 | 00000000000000000000000000000000 | | | | | | | | | | | | | | | |
| F0 | 00000000000000000000000000000000 | | | | | | | | | | | | | | | |

Figure 4

| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | A | B | C | D | E | F |
|----|----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 00 | 04110F030000FE000000000000000000 | | | | | | | | | | | | | | | |
| 10 | 00000000000000000000000000000000 | | | | | | | | | | | | | | | |
| 20 | 000000007A0000000000000000000000 | | | | | | | | | | | | | | | |
| 30 | 12010000241000010000000000000000 | | | | | | | | | | | | | | | |
| 40 | 00000000FFFF0000FFFF0000FFFF0000 | | | | | | | | | | | | | | | |
| 50 | FFFF0000FFFF0000FFFF0000FFFF0000 | | | | | | | | | | | | | | | |
| 60 | FFFF0000FFFF0000FFFF0000FFFF0000 | | | | | | | | | | | | | | | |
| 70 | FFFF0000FFFF0000FFFF00003FFE0000 | | | | | | | | | | | | | | | |
| 80 | FFFF0000FFFF0000FFFF0000FFFF0000 | | | | | | | | | | | | | | | |
| 90 | FFFF0000FFFF0000FFFF0000FFFF0000 | | | | | | | | | | | | | | | |
| A0 | FFFF0000FFFF0000FFFF0000FFFF0000 | | | | | | | | | | | | | | | |
| B0 | FFFF0000FFFF0000FFFF0000FFFF0000 | | | | | | | | | | | | | | | |
| C0 | FFFF0000FFFF0000FFFF0000FFFF0000 | | | | | | | | | | | | | | | |
| D0 | 00000000000000000000000000000000 | | | | | | | | | | | | | | | |
| E0 | 00000000000000000000000000000000 | | | | | | | | | | | | | | | |
| F0 | 00000000000000000000000000000000 | | | | | | | | | | | | | | | |

HyperStudio Clip-Art Desktop Screen Saver

Peter Stark reviews two useful additions to your disk library

HyperStudio Clip-Art Introduction and uses

HyperStudio Clip-Art Volume 2 is an unprotected 3.5" disk containing 45 files of coloured clip-art. Also provided is a 29-page manual (whose last 23 pages give black and white illustrations of all the artwork). The material is primarily meant for use with HyperStudio (for backgrounds and borders, clip-art, and Graphic Items) but it can also be applied in AppleWorks GS and in various other IIGS programs.

Contents

The clip-art on this disk is of many different types, relating to a wide variety of subjects. For my own purposes, I grouped the clip-art screens rather arbitrarily as follows (the examples listed are not comprehensive): (a) collections of objects with a common theme [Animals, Banners, Clouds, Leaves, Figures (silhouettes of people), Outer Space, Rocket Science, and Trees]; (b) symbols and button designs [e.g. Button.Press1, Button.Press2, Buttons7 and Buttons8]; (c) pairs of full-screen pictures showing 'open' and 'closed' views of the same object [File.Cab.Open and File.Cab.Closed; Rolltop.Open and Rolltop.Closed]; (d) other full-screen pictures [Bookshelves, Cabinets, Chalk.Board, DayBook, Disks, File.Cabinet, House, Notebook.Paper, and Warehouse]; (e) textured or patterned surfaces [Glass.Brick, Marble.Green, Marble.Pink, and OpArt (a rectangular chequered pattern with a striking edge effect)]; and (f) other clip-art, on a variety of subjects.

Other features

Clip-Art Volume 2 also includes a stack which you can use (with HyperStudio) to browse through the files on the disk, either as a continuous slide show or one by one.

'Button.Press1' and 'Button.Press2' contain pictures of various switches in 'on' and 'off' positions. These can be used in one's own HyperStudio stacks to produce interesting results. The manual describes how to use them so that clicking the mouse on a switch (say, in the 'up' position) makes it

appear to flip to the 'down' position. Additional HyperStudio effects may be produced at the same time, if you wish.

Overall comments

The clip-art on this disk is attractive and of good quality. It covers a wide range of subjects, relevant to many different needs and interests. It should be especially useful for HyperStudio stacks, as mentioned above, but could well be of value also for quite a number of other IIGS programs that use graphics.

Desktop Screen Saver Introduction

It is sometimes helpful to be able to save an Apple IIGS Super Hi-Res (SHR) screen image as a file on disk, for later use with another program such as HyperStudio. Desktop Screen Saver is a New Desk Accessory which enables you to do this easily. It is supplied on an unprotected 3.5" disk, together with a well written seven-page manual. The disk contains a HyperStudio stack which explains the various features of the program very effectively and also makes it easy to install Desktop Screen Saver as an NDA on GS/OS startup disks. The disk also includes the HS.Sys16 file, which lets you use this stack even if you do not possess the full HyperStudio program.

Performance and features

I found that Desktop Screen Saver works well and is simple to use. Like other NDA's, it is accessed via the Apple menu. The screen images are saved in Apple Preferred Picture Format, so they are suitable for use with HyperStudio (backgrounds, clip-art, or Graphic Items), AppleWorks GS, and various paint programs, etc. A valuable special feature is 'Timed Save', which allows you to set a delay of ten seconds before the image is saved to disk. This means that you can include pull-down menus etc. in your saved screen image if you wish. Another helpful option is 'Hide Cursor'. Here, the cursor disappears from view just before the screen is saved. Other useful features include: the ability to save your picture files on any disk or in any folder you choose; an 'In-Process Indi-

cator' which changes the border of the screen to red while a file is being saved; and 'Picture Count', which adds numerical suffixes to the picture filenames. Thus, your first screen image might be saved as 'Screen.01', and subsequent ones as 'Screen.01', 'Screen.02', and so on.

Overall comments

Desktop Screen Saver is easy to use, gives good results, and has several valuable special features. If you use HyperStudio or other IIGS programs involving SHR graphics, this NDA is well worth considering.

Peter Stark



info

Product : HyperStudio Clip-Art

Publisher : Roger Wagner

Available from :

Roger Wagner Publishing

1050 Pioneer Way

Suite "P"

El Cajon

CA 92020 U.S.A.

Price : \$24.95 + \$10 P&P

Value : ★★★★★

Performance : ★★★★★

Documentation : ★★★★★

info

Product : Desktop ScreenSaver

Publisher : Roger Wagner

Available from :

Roger Wagner Publishing

1050 Pioneer Way

Suite "P"

El Cajon

CA 92020 U.S.A.

Price : \$24.95 + \$10 P&P

Value : ★★★★★

Performance : ★★★★★

Documentation : ★★★★★

Internetworking Guide

John J. Chew explains the intricacies of the Internet system.

Contents:

I: The Internetworking Guide
II: Networks NOT(yet) reachable from the Internet.

Introduction

This file documents methods of sending mail from one network to another. It represents the aggregate knowledge of the readers of comp.mail.misc and many contributors elsewhere. If you know of any corrections or additions to this file, please read the file format documentation below and then mail to me;

John J. Chew
<poslit@gpu.utoronto.ca>.

If you do not have access to electronic mail (which makes me wonder about the nature of your interest in the subject, but there does seem to be a small such population out there) you can call me during the month of July at +1 416 979 7166 between 11:00 and 24:00 EDT (UTC-4h) and most likely talk to my answering machine (-).

Distribution

(news) This list is posted monthly to Usenet newsgroups comp.mail.misc and news.newusers.questions. (mail) I maintain a growing list of subscribers who receive each monthly issue by electronic mail, and recommend this to anyone planning to redistribute the list on a regular basis. (FTP) Internet users can fetch this guide by anonymous FTP as `-ftp/pub/docs/internetworking-mail-guide` on Ra.MsState.Edu (130.18.80.10 or 130.18.96.37) [Courtesy of Frank W. Peters] (Listserv) Bitnet users can fetch this guide from the Listserv at UNMVM. Send mail to `LISTSERV@UNMVM` with blank subject and body consisting of the line "GET NETWORK GUIDE". [Courtesy of Art St. George]

How to use this Guide

Each entry in this file describes how to get from one network to another. To keep this file at a reasonable size, methods that can be generated by transitivity (A->B and B->C gives A->B->C) are omitted. Entries are sorted first by source network and then by destination network. This is what a typical entry looks like:

```
#F mynet
#T yournet
#R youraddress
#C contact address if any
#I send to youraddress@thegateway"
```

For parsing purposes, entries are separated by at least one blank line, and each line of an entry begins with a '#' followed by a letter. Lines beginning with '#' are comments and need not be parsed. Lines which do not start with a '#' at all should be ignored as they are probably mail or news headers.

#F (from) and #T (to) lines specify source and destination networks. If you're sending me information about a new network, please give me a brief description of the network so that I can add it to the list below. The abbreviated network names used in #F and #T lines should consist only of the characters a-z, 0-9 and '-' unless someone can make a very convincing case for their favourite pi character.

The currently known networks with abbreviated names are shown in Table 1.

#R (recipient) gives an example of an address on the destination network, to

make it clear in subsequent lines what text requires substitution.

#C (contact) gives an address for inquiries concerning the gateway, expressed as an address reachable from the source (#F) network. Presumably, if you can't get the gateway to work at all, then knowing an unreachable address on another network will not be of great help.

#I (instructions) lines, of which there may be several, give verbal instructions to a user of the source network to let them send mail to a user on the destination network. Text that needs to be typed will appear in double quotes, with C-style escapes if necessary (See Table 2).

Inter-Network Mail Guide - Copyright 1990 by John J. Chew

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Table 1

| | |
|------------|---|
| applelink | AppleLink (Apple Computer, Inc.'s in-house network) |
| bitnet | international academic network |
| bix | Byte Information eXchange: Byte magazine's commercial BBS |
| bmug | Berkeley Macintosh Users Group |
| compuserve | commercial time-sharing service |
| connect | Connect Professional Information Network (commercial) |
| easynet | Easynet (DEC's in-house mail system) |
| envoy | Envoy-100 (Canadian commercial mail service) |
| fax | Facsimile document transmission |
| fidonet | PC-based BBS network |
| geonet | GeoNet Mailbox Systems (commercial) |
| internet | the Internet |
| mci | MCI's commercial electronic mail service |
| mfenet | Magnetic Fusion Energy Network |
| nasamail | NASA internal electronic mail |
| peacenet | non-profit mail service |
| sinet | Schlumberger Information Network |
| span | Space Physics Analysis Network (includes HEPnet) |
| sprintmail | Sprint's commercial mail service (formerly Telemail) |
| thenet | Texas Higher Education Network |

Table 2

```
#F applelink
#T internet
#R user@domain
#I send to "user@domain@internet#"
#I domain can be of the form "site.bitnet", address
  must be <35 characters

#F bitnet
#T internet
#R user@domain
#I Methods for sending mail from Bitnet to the Internet
  vary depending on
#I what mail software is running at the Bitnet site in
  question. In the
#I best case, users should simply be able to send mail to
  "user@domain".
#I If this doesn't work, try "user%domain@gateway"
  where "gateway" is a
#I regional Bitnet-Internet gateway site. Finally, if
  neither of these
#I works, you may have to try hand-coding an SMTP
  envelope for your mail.
#I If you have questions concerning this rather terse
  note, please try
#I contacting your local postmaster or system adminis-
  trator first before
#I you send me mail — John Chew
  <posfit@gpu.utes.utoronto.ca>

#F compuserve
#T fax
#R +1 415 555 1212
#I send to "FAX 14155551212" (only to U.S.A.)

#F compuserve
#T internet
#R user@domain
#I send to ">INTERNET:user@domain"

#F compuserve
#T mci
#R 123-4567
#I send to ">MCIMAIL:123-4567"

#F connect
#T internet
#R user@domain
#I send to CONNECT id "DASNET"
#I first line of message: "\user@domain\@DASNET"

#F easynet
#T bitnet
#R user@site
#C DECWRL::ADMIN
#I from VMS use NMAIL to send to
  "nm%DECWRL::\user@site.bitnet\\""
#I from Ultrix
#I send to "user@site.bitnet" or if that fails
#I (via IP) send to
  "\user%site.bitnet\@decwrl.dec.com"
#I (via DECNET) send to
  "DECWRL::\user@site.bitnet\\""

#F easynet
#T fidonet
#R John Smith at 1:2/3.4
#C DECWRL::ADMIN
#I from VMS use NMAIL to send to
  "nm%DECWRL::\john.smith@p4.f3.n2.z1.fidonet.org\\""
#I from Ultrix
#I send to "john.smith@p4.f3.n2.z1.fidonet.org" or if
#I that fails (via IP) send to
  "\john.smith@p4.f3.n2.z1.fidonet.org\@decwrl.dec.com"
#I (via DECNET) send to
  "DECWRL::\john.smith@p4.f3.n2.z1.fidonet.org\\""

#F easynet
#T internet
```

```
#R user@domain
#C DECWRL::ADMIN
#I from VMS use NMAIL to send to
  "nm%DECWRL::\user@domain\\""
#I from Ultrix
#I send to "user@domain" or if that fails
#I (via IP) send to "\user%domain\@decwrl.dec.com"
#I (via DECNET) send to "DECWRL::\user@domain\\""

#F envoy
#T internet
#R user@domain
#C ICS.TEST or ICS.BOARD
#I send to "[RFC-822=\user(a)domain\"]INTERNET/
  TELEMAIL/US
#I for special characters, use @(a), !=(b), _=(u),
  any=(three octal digits)

#F fidonet
#T internet
#R user@domain
#I send to "uucp" at nearest gateway site
#I first line of message: "To: user@domain"

#F geonet
#T internet
#R user@domain
#I send to "DASNET"
#I subject line: "user@domain!subject"

#F internet
#T applelink
#R user
#I send to "user@applelink.apple.com"

#F internet
#T bitnet
#R user@site
#I send to "user%site.bitnet@gateway" where "gateway" is
#I a gateway host that is on both the internet and bitnet.
#I Some examples of gateways are:
#I cunym.cuny.edu mitvma.mit.edu. Check first to see
#I what local policies are concerning inter-network
#I forwarding.

#F internet
#T bix
#R user
#I send to "user@dcibix.das.net"

#F internet
#T bmug
#R John Smith
#I send to "John.Smith@bmug.fidonet.org"

#F internet
#T compuserve
#R 71234.567
#I send to "71234.567@compuserve.com"
#I note: Compuserve account IDs are pairs of octal
#I numbers. Ordinary consumer CIS user IDs begin
  with a '7' as shown.

#F internet
#T connect
#R NAME
#I send to "NAME@dcjcon.das.net"

#F internet
#T easynet
#R HOST::USER
#C admin@decwrl.dec.com
#I send to "user@host.enet.dec.com" or
  "user%host.enet@decwrl.dec.com"

#F internet
#T easynet
#R John Smith @ABC
#C admin@decwrl.dec.com
#I send to "John.Smith@ABC.MTS.DEC.COM"
```


#I (This syntax is for All-In-1 users.)

```
#F internet
#T envoy
#R John Smith (ID=userid)
#C /C=CA/ADMD=TELECOM.CANADA/ID=ICS.TEST/
  S=TEST_GROUP/@nasamail.nasa.gov
#C for second method only
#I send to "uunet.uu.net/att!attmail!mhs!envoy!userid"
#I or to "/C=CA/ADMD=TELECOM.CANADA/
  DD.ID=userid/PN=John_Smith/@Sprint.COM"
```

```
#F internet
#T fidonet
#R John Smith at 1:2/3.4
#I send to "john.smith@p4.f3.n2.z1.fidonet.org"
```

```
#F internet
#T geonet
#R user at host
#I send to "user:host@map.das.net"
#I American host is geo4, European host is geo1.
```

```
#F internet
#T mci
#R John Smith (123-4567)
#I send to "1234567@mcimail.com"
#I or send to "JSMITH@mcimail.com" if "JSMITH" is
#I unique or send to "John_Smith@mcimail.com" if
#I "John Smith" is unique - note the underscore!
#I or send to "John_Smith/1234567@mcimail.com" if
  "John Smith" is NOT unique
```

```
#F internet
#T mfenet
#R user@mfenode
#I send to "user@mfenode.mfenet@nmfecc.arpa"
```

```
#F internet
#T nasamail
#R user
#C <postmaster@ames.arc.nasa.gov>
#I send to "user@nasamail.nasa.gov"
```

```
#F internet
#T peacenet
#R user
#C <support%cdp@arisia.xerox.com>
#I send to "user%cdp@arisia.xerox.com"
```

```
#F internet
#T sinet
#R node::user or node1::node::user
#I send to "user@node.SINet.SLB.COM" or
  "user%node@node1.SINet.SLB.COM"
```

```
#F internet
#T span
#R user@host
#C <NETMGR@nssdca.gsfc.nasa.gov>
#I send to "user@host.span.NASA.gov"
#I or to "user%hostL.span@ames.arc.nasa.gov"
```

```
#F internet
#T sprintmail
#R [userid "John Smith"/organization/system/country
#I send to "/C=country/ADMD=system/O=organization/
  PN=John_Smith/DD.ID=userid/@Sprint.COM"
```

```
#F internet
#T thenet
#R user@host
#I send to "user%host.decnnet@utadnx.cc.utexas.edu"
```

```
#F mci
#T internet
#R John Smith <user@domain>
#I at the "To:" prompt type "John Smith (EMS)"
#I at the "EMS:" prompt type "internet"
#I at the "Mbx:" prompt type "user@domain"
```

```
#F nasamail
#T internet
#R user@domain
#I at the "To:" prompt type "POSTMAN"
#I at the "Subject:" prompt enter the subject of your
#I message at the "Text:" prompt, i.e. as the first line of
#I your message enter "To: user@domain"
```

```
#F sinet
#T internet
#R user@domain
#I send to
  "M_MAILNOW::M_INTERNET::\"user@domain\""
#I or "M_MAILNOW::M_INTERNET::domain::user"
```

```
#F span
#T internet
#R user@domain
#C NETMGR@NSSDCA
#I send to "AMES::\"user@domain\""
```

```
#F sprintmail
#T internet
#R user@domain
#I send to "[RFC-822=user(a)domain
  @GATEWAY]INTERNET/TELEMAIL/US"
```

```
#F thenet
#T internet
#R user@domain
#I send to UTADNX::WINS%\"user@domain"
```

□ As a supplement, here are networks known *not* to have email gateways.

| Network | Comments |
|---------|----------|
|---------|----------|

| | |
|-----------------|---|
| American Online | Masato Ogawa (ogawa@sm.sony.co.jp) confirms that there is no gateway. |
|-----------------|---|

| | |
|--------|---|
| Dialog | mcmahan@netcom.UUCP (Dave Mc Mahan) reports that nobody responded to his query in October 1990. |
|--------|---|

| | |
|-------|--|
| Genie | No gateway yet, but Bill Louden, the General Manager of GENIE, has stated publicly that they are currently doing research into the feasibility of a gateway. Trust me if such a gateway is set up, you'll hear about it. By the way, the machine genie.com is a red herring. |
|-------|--|

| | |
|----------|--|
| HandsNet | oze3@quads.uchicago.edu (J. Daniel Ozeran) reports that nobody responded to his query in January 1991. |
|----------|--|

| | |
|---|---|
| Midas International headquarters in Chicago | IO00393@MAINE.BITNET (Pete) reports that nobody responded to his query in January 1991. |
|---|---|

| | |
|-------------|---|
| Nifty-Serve | a Japanese BBS suzuki@sai.vtt.fi (Makoto Suzuki) contacted the system operators and confirmed that there is no gateway. |
|-------------|---|

| | |
|---------|---|
| Prodigy | by IBM and Sears censors email charges the sender of the mail message Censorship details available from comp.risks issue 10.46. |
|---------|---|

Robert Halloran (rkh@mtune.ATT.COM) notes: [Genie, Prodigy, and American Online] have all apparently been approached more than once about gateways, and have refused to let all that un-screened (and FREE!) mail onto their respective networks....

The Inter-Network Mail Guide
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Finder 6.0

The Real Time Conference transcript on the System 6.0 Finder featuring Andy Nicholas and Dave Lyons

GENie Apple II RoundTable
Real Time Conference Transcript

Guests : Andy Nicholas

Dave Lyons

Company : Apple Computer, Inc.

Topic : Finder 6.0

Date : October 9, 1991

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<[Jeff] A2.JEFFH> I'd like to welcome our guests tonight, they are none other than Andy Nicholas, world famous programmer responsible for a ton of stuff, and Dave Lyons, IIGS toolbox guru. Any opening comments, Andy?

<[Andy N.] SHRINKIT> Hi, I'm Andy Nicholas, I work for Apple Computer and I've spent the last 11 months working on the Apple IIGS Finder for System 6.0. I started working for Apple on November 5th last year and have spent a lot of time with many people in the Apple II group working really hard on our next System Disk, System 6. Now, I'm sure you have a lot of questions, so fire away.

<[Bill] W.TUDOR> OK, First I know nothing at all about what is coming but I would like to see more support for icons...i.e. pasting pictures to create new ones, ability to set the App/etc. somehow without icon editor..built in.

<[Andy N.] SHRINKIT> Bill, that's sort of in the Finder. Actually, before I can describe what the Finder has, does everyone know what System 6 is going to include? If not, I can elaborate, and if you already have an idea, I can just expound upon the way the Finder works.

Bill — the Finder uses a new Icon matching scheme based on resources and "desktop" files found in the ICONS folder in the root of every volume. If the Finder can't find an application for a document, you can generate a "link" between the document and the App which the Finder will remember. You can reassign the link at any time inside of the Finder. Also, the Finder will prompt you that it can't find the application for a document if you moved the applica-

tion, or deleted it.

If the application is "System 6-Savvy", then it will have a Bundle resource which lets the Finder know certain things about it when the Application gets launched. If you launch an application with a Bundle resource, the Finder automatically places the information contained in the bundle into a desktop file so that when you return to the Finder, the database will be up-to-date.

Getting "Icon Info" on an icon does relatively the same thing. It's all an effort to have the Finder not "lose" applications as often.



<[Bill] W.TUDOR> How about being able to copy a picture to the clipboard, then select Info on a file and pasting the picture on top of the icon shown there, creating a new icon and altering the file(s) in the icon folder?

<[Andy N.] SHRINKIT> Bill, your second question isn't supported.

<[Bill] W.TUDOR> Ok, Thanks Andy. Keep up the great work!

<[TMIKE]> Does the new Finder have dynamic datafile/application association? (e.g., drag & drop) The current static method is OK, but not

great.

<[Andy N.] SHRINKIT> Nope, it doesn't support drag and drop.

<[TMIKE]> I'm very disappointed, considering that's easy to implement given the other functionality present.

<[Gary] FLORIDA.RT> First of all I think it's GREAT that Apple has decided to tell us in advance about new system software rather than keeping us in the dark!! Way to go!! NOW could you please go ahead and give us a run down of System 6.

<[Andy N.] SHRINKIT> Oh, ok — System 6 includes:

An HFS File System Translator (FST), an Apple DOS 3.3 FST (read-only), an Apple

Pascal FST (read-only), the SCSI Scanner and Tape drivers are a standard part of the system disk...Teach, a minimal word-processor application, Archiver, a backup program (I didn't write it, Monte Benares did), A StyleWriter printer driver, a Media-Control toolset, brand new Control Panel for "control panels" (instead of CDEVs) which allows multiple open control panels.

There's a Calculator DA, spiffy Find File DA, CloseView (DA for magnifying the screen), Video Keyboard (floating keyboard), Easy Mount for network users (allows mounting server volumes without opening a the AppleShare control panel).

AppleShare control panel is much smaller (by a factor of about 3), Standard File is much more spiffy (you can type multiple characters to navigate through lists) and supports all the known GS/OS file systems through the use of a new tool call, HandleDiskFormat.

Erase disk GS/OS calls are much more spiffy — they allow you to tab between ois and enter a disk name right at the erase dialog, sort of like one-stop — so you don't have to wade through a whole bunch of dialogs to format. Format and erase also tell the user what is valid and not valid for names for volumes. AlertWindow has automatic key equivalents and more colour (in the icons). AlertWindow hits the OK button for you in disk swap dialogs when you insert a disk (well, not 5.25" disks).

The scroll bars in the windows in the Finder are grey instead of checkerboard.

Windows in the Finder also open faster. There's a Windows menu in the Finder, a floating about box which gives memory usage and is updated every 15 seconds, a floating help box with a pop-up for selecting topics, preferences allows you to select the way you want your list views customised (so if you want to see only the name, you can do that.. or name and date, you can do that). The Double height info-bars of Mac System 7 are also supported.

If you apple-click in the title bar of a

window you'll get a popup listing the hierarchy of the folders leading to a window so you can navigate upwards through a folder's hierarchy instead of just down. Tunnelling (option-double-clicking) is supported (tunnelling closes the window that you double click in after it opens the folders you opened). And there are keyboard shortcuts galore. Font Manager also supports big fonts (>64k) — we'll be shipping a whole disk full of fonts in larger point sizes so that the StyleWriter's output looks good.

Dave sez that's most of the highlights. We did a lot more.

<[Gary] FLORIDA.RT> Any work done to the ImageWriter LQ driver to make it more robust?

<[Andy N.] SHRINKIT> Robust in what way?

<[Gary] FLORIDA.RT> Well it seems that sometimes the print quality is a bit strange and the bin selection doesn't always work.

<[Andy N.] SHRINKIT> "Strange"? How strange?

<[Gary] FLORIDA.RT> mainly in AWGS Page Layout

<[Andy N.] SHRINKIT> Ok, like what does it do strangely?

<[Gary] FLORIDA.RT> If you switch print qualities in the page layout sometimes the bottom of all letters are cut off in HIGH Quality. Do you understand what I mean?

<DAVE.LYONS> We think we understand...this is news to us.

<[Gary] FLORIDA.RT> I can send you some sample print outs if you would like

<DAVE.LYONS> (I'll run it by the author.)

<[Gary] FLORIDA.RT> Just send me an address :) Thanks Dave and Andy!

<[Martin] A2.MARTIN> Andy, I've heard that the new Finder is much more "Mac-like" using <Option>-Clicks. Which <Option>-Clicks are defined besides "Tunnelling" and "Close All"? And can catalogs be printed from the Finder now?

<[Andy N.] SHRINKIT> No, catalogs can't be printed, but someone with a Finder Extension could do that. If you option-close a window, it closes all the windows, and if you option select a window from the windows menu, it closes that window without bringing it to the front (Oh yeah, if you option cleanup, it does cleanup by name, arranging your icons alphabetically in the window according to the width of the window).

<[Martin] A2.MARTIN> OK, one other question: You already mentioned "Finder Extensions". Could you give us a short description of them? And can they install their own pull-down menus like "Disk Doubler / Magic Menu-Stuffit Deluxe on the Mac?"

<[Andy N.] SHRINKIT> A short description of Finder Extensions? Not easily, but basically a Finder Extension

adds some kind of functionality to the Finder.

Usually, they'll be an INIT which will sit in the system and do something cool for you — we'll be shipping a Finder Extension called "EasyMount" which allows you to double click on an EasyMount document and automatically have that server volume mounted within about a 1/2 second without having to open the AppleShare control panel.

Dave sez: (1) you can add things to the finder's "Extras" menu (2) You can handle the launching of documents (like EasyMount). (3) You can interact with the selection of icons (or set the selection). (Trying to tell people exactly the way something like Finder Extensions work in a GEnie conference is difficult).

<[Martin] A2.MARTIN> OK; thank you, Andy. One quick last question: Are ALL menus and dialogs now in Resources (Would make a foreign-language version a snap :~)?

<[Andy N.] SHRINKIT> About 80% of the Finder's dialogs and text are in



resources. The GetInfo box isn't in resources and some of the window stuff (FST names, etc.) aren't in resources, but most of the dialogs are. If you have Genesys, you could conceivably edit them and make a mostly German Finder.

<[Greg] A2.GREG> With SysBeep2 now being used in the Finder, what types of sounds may be used? Only rSoundSamples or are they a different type of resource? Will the sounds be kept somewhere that they may be accessed by other programs?

<[Andy N.] SHRINKIT> Just rSoundSamples, and they're stored in *:System:Sounds

<[Greg] A2.GREG> Ok! That was easy enough. Will they be the same in all desktop programs that use SysBeep2? Say for instance I set a sound to be used in the finder for WhooshWindow, will it be the same in all desktop programs?

<DAVE.LYONS> Yes!

<[John] J.LARSEN4> Why are we NOT allowed to CONTROL the location of the HD icons and 3.5 disk icons and the TRASH icons location IN the finder? or are we now?

<[Bryan] SOFTDISK.ING> (hey, not even System 7.0 lets you move the device icons :)

<[John] J.LARSEN4> I'd prefer mine to be ACROSS the top. :)

<[Andy N.] SHRINKIT> You can control the location of the trashcan now. There's a "geekPrefs" resource which controls such goofy things as that — The other stuff's location can't be controlled because I never got around to doing that (only have two hands).

<LUNATIC> What, exactly, does Finder return when passed the messages "tellFinderGetSelectedIcons" and "tellFinderGetWindowIcons"?

<[Andy N.] SHRINKIT> We'll tell you later (honest, you don't really have any need for information like that right now).

<LUNATIC> Ok, then... What are all the NEW attributes Finder can now match an icon on? Can it now match on specific bits in the aux type, instead of just all of them as a whole, or on a file's endfile info?

<[Andy N.] SHRINKIT> You can't match on a file's length, but you can match against a file's filetype, aux type (and individual bits in the aux type), HFS filetype, HFS creator, anything in the option list, create date, and mod date.

<LUNATIC> A question about extensions... Will the source code to EasyMount be available, or other source code examples of how to write a Finder extension?

<[Andy N.] SHRINKIT> We can't (won't) publish the source code to EasyMount, but I think Matt Deatherage is working on a Finder Extension that will be published as source code as an example of how to write a Finder extension.

<LUNATIC> Lastly, just what else does geekPrefs contain? (This is the first time I've heard of it.)

<[Andy N.] SHRINKIT> All first 8 default window positions are in the geekprefs resource, the default folder background and outline colour, the comma character used for the thousands place (comma or period for overseas), the default preferences settings, the default trashcan position, and the default trash window and clipboard window positions, and the default desktop pattern.

<TMIKE> Thanks, Andy, for the aux type bits in icon matching!! Are any of the following in the new Finder: view access to file access bits, ability to open window w/o navigating the directory, or decent trashcan functionality?

<[Andy N.] SHRINKIT> Decent trashcan functionality: no, it works much the same it always has. Ability to open a window without navigating a directory? Could you clarify that a little?

<TMIKE> Perhaps by specifying a directory, either interactively or from a user list.

<[Andy N.] SHRINKIT> Do you want some kind of message box? (sounds like a perfect opportunity for a Finder Extension! :)

<TMIKE> Sure, that'd be fine. I just

hate navigating unnecessarily.

<[Andy N.] SHRINKIT> Btw, you can put folders on the desktop (which should simply navigation a bit).

<[Leif] L.STRAND1> Will we see MultiFinderGS anytime soon?

<[Andy N.] SHRINKIT> No.

<[Leif] L.STRAND1> Would it be difficult for someone outside Apple to write it?

<DAVE.LYONS> YES!

<[Andy N.] SHRINKIT> Yes, it would. Dave? You wanna try to answer this?

<DAVE.LYONS> (It would be difficult for anybody*, but especially to someone without complete source code to the toolbox.)

<[Leif] L.STRAND1> OK. I suspected that. A few quick questions, then I'm done:

1. Does the Finder display mem. sizes in MB for sizes over 1024K?

<[Andy N.] SHRINKIT> Yes.

<[Leif] L.STRAND1> OK. 2. Does ZoomWindow zoom just enough to see the contents? (Like on the Mac?)

<[Andy N.] SHRINKIT> No.

<[Darren] S.PRICE7> Ok, my question is this: is there anything in the future about the finder supporting 800 colours like the 3200 colours available in 320 mode.

<[Andy N.] SHRINKIT> No. (where'd you get 800 from?)

<[Darren] S.PRICE7> well, 4 colours per line, 200 lines. 200x4=800. Perhaps I'm off in left field here??

<[Andy N.] SHRINKIT> (Uh huh... :-)

<[Martin] A2.MARTIN> Andy, does the Finder now tell you in advance if there isn't enough space on a volume to copy all selected files onto? And has icon arranging (small and normal) now been improved? Can we define an icon grid like Norton's "Layout Plus"?

<[Andy N.] SHRINKIT> Does the Finder tell you in advance whether you have enough space to copy? No, and it's debatable whether it will or not. Has icon arranging been improved? It's in the process of being improved. Can you define a grid for gridding icons? Maybe — it might be included in the geekPrefs resource.

<[Martin] A2.MARTIN> OK, another, more SSW-related question: I've heard that the pre-6.0 Quickdraw II is very "unfriendly" when it comes to support other screen resolutions than the two currently available (thinking about VGA-like cards). Has this been improved in 6.0? How can developers get help to design high-resolution graphic cards for the IIGs (perhaps that's a question for Dave :-).

<DAVE.LYONS> This is an interesting issue, but I don't have a whole lot of

hope for a developer trying to do a very big, fancy screen. QuickDrawII supports only 2- and 4-bit deep pixel maps, and would take a major rewrite to support anything else. QuickDraw would be happy with a (single) display of a nonstandard size, *if* it was still 2 or 4 bits deep, and if the memory it mapped into was linear and within the standard GS memory space. Some parts of the system would still have to be modified, like the Menu Manager (which writes directly to the screen when drawing a menu and restoring its background), and then there would be interesting issues with any programs that stored window positions to disk (save a Finder window on a huge screen, and then re-open it on a system with a standard screen, and your window is not visible, because it's off the edge of the screen. (I think that's enough detail for now.)

<[Martin] A2.MARTIN> So Quickdraw currently IS unfriendly like I described it, right?

<DAVE.LYONS> The GS system was

files now displayed in the upper/lower case as seen in AppleWorks, depending on their auxtypes?

<DAVE.LYONS> (No, they're not.)

<[Andy N.] SHRINKIT> No, because they use a non-standard mechanism for doing their lower-case.

<LUNATIC> Any chance that they might be?

<[Andy N.] SHRINKIT> No.

<[Jeff] A2.JEFFH> Any closing comments?

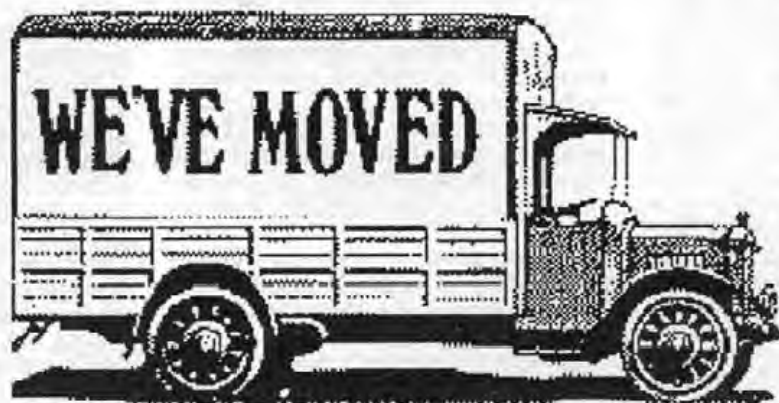
<[Andy N.] SHRINKIT> Yes — trying to describe something like the new System Software we're working on in an online conference isn't able to do it justice...

When System 6 ships, it'll be a little easier. :-)

<[Jeff] A2.JEFFH> I'd like to thank Andy and Dave for being here to night.

<DAVE.LYONS> SendRequest (daveSaysGoodNight)

End of transcript



not intended to support either multiple monitors or arbitrary-depth pixel maps, or arbitrary-size screens. If you want to call that "unfriendly," fine.

<LUNATIC> Is there any way for Finder to tell a user what the type of a file on a non-ProDOS filesystem is? I.e. in list displays and in the GetInfo box.

<DAVE.LYONS> (Lunatic, do you mean see the HFS filetype/creator type?)

<[Andy N.] SHRINKIT> Not yet, but there might be before System 6 ships.

<LUNATIC> Yes, as well as DOS 3.3 filetypes, and anything else there might be (Pascal?).

<DAVE.LYONS> DOS 3.3 filetypes show up as standard ProDOS/GS/OS filetypes, like Text, Binary, Applesoft. The other ones simply show up as "Unknown."

<LUNATIC> Ok... Could you tell us what some of the finderSays or tellFinder codes added since Kfest are?

<[Andy N.] SHRINKIT> tellFinderSelectMItem and finderSaysMItemSelected.

<LUNATIC> Lastly, are AppleWorks

□ GENie is a branch of the General Electric company and the online service is now available for UK users.

As well as general areas with news and the usual information services, GENie includes a large RoundTable for Apple II and Macintosh users. The Apple II Round Table has message areas, libraries and Real Time Conferences devoted to the Apple II. A2-Central supports the Apple II Round Table and its regular contributors can be found there.

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Your application will need to be ratified and a contract signed. GENie will be in touch and send you a contract form. You will need to sign this and return it before your account will be started. This process usually takes around two weeks to complete.

Editor

1991 User Group Advisory Council

On July 16th 1991 John Sculley addressed the US User Groups

Introduction of John Sculley by Dee Anne Dougherty

This morning we revisit a User Group Advisory Council tradition, our discussion with John Sculley. John was with us about six years ago when we first invited User Group representatives to Apple to discuss their hopes of a working relationship with Apple. It was through this discussion and with John's support that the User Group Connection was first founded. Since then he has been with each Council, listening to your input and incorporating it into his business decisions. For those of you who have met John before, you know that he greatly respects the work User Groups do on behalf of Apple, and shares your enthusiasm for the abilities of our products and the differences they make. Let's spend some time with John this morning listening to his perspective and issues your groups face in the User Group community. John, we're delighted to have you here this morning, and the Council, along with all of us in the User Group Connection, welcome you.

Opening Remarks by John Sculley

Well, once again, thank you very much for coming together for this Council meeting. The only thing at Apple that is more important than our products are the people who use them. This means a tremendous amount to us that all of you have taken the time, not only to come here and to help strengthen the relationship between Apple and User Groups across the country, but also that you work so hard during the year to make your User Groups successful. I want you to know that we know what you do, we think it's great, and please keep on doing it.

What I'd like to do is to take a few minutes before we start the questions to give you a perspective of some of the really exciting things that are going on at Apple today as we begin the decade of the 1990's. As I think many of you know, about 18 months ago we set Apple on a different course, and the course was to really try to expand the role of Macintosh computers in the personal computing industry. We have

been very successful since the introduction of the Macintosh back in 1984, selling the world's most user-friendly computer, but we sold it to a relatively small percentage of the personal computer population. It became clear as the industry started to slow down in its overall growth — as competitive products were on the horizon, such as Microsoft Windows, which were trying to adopt many similar features to the Macintosh — that we were going to have a tough time holding on to the third party software developers support unless we could increase Macintosh penetration in the industry and expand the range of choice of our products. So, 18 months ago I took over the role of managing product development. I brought in Michael Spindler from Europe — who had been very successful in building a tremendously large Macintosh market over there — to become Apple's Chief Operating Officer.

We set as the first objective to go for market share. In order to accomplish this, we had to become much faster in bringing our products to market. We've been able, as other computer companies during the 1980's, to bring out about one or two new products a year. But in the 1990's it was quite clear that we had to bring out a much larger number of new products. We had to bring them out not only for the desktop, but also laptops and very high end performance systems, as well as peripheral products that would support them. So 'time to market' became a very key criteria for us in product development. To give you a comparison, about 35% of our revenue last year came from new products. This year it is well over 80% that will come from new products. We have introduced a large number of new products this fiscal year, starting with the Macintosh Classic, the Macintosh LC, the Macintosh IIsx, as well as low-cost printers. The year isn't over yet, and there are still a lot of other exciting ones to come.

The other thing we did was focus the product development energies against the low end of the product line, trying

to get as much innovation as possible at the lowest possible price points. In the past, the innovation was largely targeted at the high end of the product line, with the idea that it would trickle down over time.

Third, we tried to get customer input into the features that we put into our products. The Macintosh Classic was largely designed by users. Users told us they wanted an internal hard drive. Users told us they wanted more memory inside the Macintosh Classic. In the Macintosh LC, users told us that they wanted 8-bit colour, and we actually went and redesigned the LC and the Classic while we were in the development process. In future products — ones that we have started in the last year — we have gone out and started with customers first to get their input as to what should be in the products. I think you will see some very exciting ideas that customers have given us as products.

We also dramatically dropped the price of Apple's products. We had done testing about a year ago to find out whether Macintosh was, in fact, a price-sensitive product. We wanted to know if Macintosh was sold at lower prices, would we reach out to new users? The answer was an emphatic 'Yes!' In fact, when we introduced the Macintosh Classic, we literally cut the price in half from the product it replaced. On just about everything we have introduced, the prices have come down by tremendous amounts. What we found is that we have had a tremendous increase in selling our computers to people who would either never own a computer before, or who would never own an Apple computer before, because the prices were more than they could afford. I don't know whether you are noticing the rise in the number of new people who are coming into your User Groups, but all of our research shows that we are definitely reaching out to new people. So, in a recession year when most of the computer industry is not showing very much unit growth at all, the growth of Macintosh units is absolutely booming.

The problem for us as a company, however, is that the booming sales are with the lowest price products, which also have the lowest margins. So as we look out into the 1990's, with the much lower gross margins we've had, we haven't had the affordability to be able to bring the next generations of technology to the industry. That is one of the major reasons why we have been looking around for over a year now to find a partner that we could work with who would help us be able to shift the industry off its course. We want to try to once again in the 1990's — as we did back in the 1980's — to bring some major new innovation to the industry. This time the major new innovations



will be in object-oriented programming, and in multimedia technologies. It will be in expanded capabilities with the Macintosh on open systems as well as RISC. There are going to be a lot of very important and very exciting new technologies that will reach the market because of this new relationship that IBM and Apple Computer have entered into.

I would like to point out to you that when we announced the IBM-Apple relationship, now just a few weeks ago, that it was probably the shortest press announcement that has ever been put out by the computer industry. It was just about a page long. There were no quotes in it from either the CEO of IBM or myself. There have been no interviews up until this point by any of the top management of IBM or Apple. There have been a few people who have been writing about it and speculating about it, but you are the first people to hear from anyone from the top management of Apple or IBM. So I think it is appropriate that I have a chance to speak publicly to User Groups about what this can mean.

There has been a lot of questions about two companies that are so culturally different. IBM is one of the largest, most admired, and one of the most successful corporations in the world. Apple Computer is less than 15 years old, started in a garage, has been driven by a passion to change the world, and has many people who have never worked in a large, traditional corporation. Is it possible for two companies that are so different in terms of their roots to do something together that can really be successful? I know that's on a lot of people's minds. What I can tell you is that while we had the shortest press release probably ever in the history of the computer industry, we had the most intensive discussions, negotiations, and time together in order to understand what it was going to take to actually ship products, not just make press announcements. In fact, there were over 150 people who have been involved for over two months, almost around the clock, seven days a week. We have been getting to know one another, understanding what it takes to create a win/win for both companies. We've been discussing what it takes to have a 'win' for independent software developers who will create new software applications and solutions on top of these platforms — and, importantly, where the 'win' is for the user and the customer. What we found is that there are tremendous complementary areas where we at Apple can learn a lot from IBM, with their success in enterprise systems, with their long tradition of focus on customer solutions. IBM is learning that they can learn a lot from Apple, with our focus on end user systems and our ability to create unique software technologies.

In the 1990's no one company can go it alone. We want to bring together the strengths of Apple's core competencies and the strengths of IBM's core competencies, but keep it out of the bureaucracies of each company. So we have been very careful to say 'Let's set up either joint efforts or joint ventures that we can pull away from the more traditional organisations of each company,' and 'Let's bring in at the start in these discussions the people who are actually going to have to develop the products and let them get to know each other. Let them work through the issues, as opposed to having the top managers agree on some overall relationship without understanding what the details are going to be in order to make it work.' This has been the approach that we have taken. I think that we are going to find that there will be some wonderful products that will come out of this relationship. I think it has the potential to set the industry on a brand new course. As a lot of you



know, there has not been very much innovation in software applications for about four years. It is kind of like we are getting Godfather III or Rocky V. We are getting new features on old ideas. In the 1990's we have a chance to make as big a breakthrough in the kind of things that computers can do as we did in the mid-1980's. I'll give you just one example, and then we'll go into questions.

Most of the capability that today is done at the applications level is done with object-based systems, built into the system software, in what are called class libraries. The class libraries sit on top of an object-oriented microkernel. What this means is that capabilities like spreadsheets and word processors and more traditional personal productivity applications are largely implemented at the system soft-

ware level. With object-based systems, software developers and users can actually go in and write relatively small code segments the way you write a HyperCard stack in effect, but much easier. You have the ability to create usable solutions that tie into things that people want to be able to do that go beyond individual personal productivity. For example, a lot of people in education are interested in how to get students to work together in a classroom. A lot of people in business are interested in how to get individuals to work together to make an organisation more productive. The computer industry continues to give greater and greater capabilities with networks and servers and the ability to distribute information across networks.

Object-oriented programming allows you to take something that is inherently very complex and to use a technology which dramatically simplifies it. Solutions become the defining ability of software, as opposed to broad, horizontal, shrink-wrapped applications. It means that the kinds of things that software developers will do in programming. And it means that things like multimedia capabilities — which today have to be added on with special cards or with special software — those things are all built into the base system.

So as we go out into the 1990's and we get out into mid-decade, what we will start to see is wonderful new capabilities with new input, such as speech, handwriting recognition, gesture. We'll see multimedia capabilities integrated into the system software and therefore applications will be able to take advantage of it. We'll see the ability to distribute information across networks in ways that will allow people to work together in what has been called groupware, but where there are relatively few examples today.

All of this will put into the hands of users far more power than they could ever get without this cooperation between IBM and Apple. It brings together the resources of both companies, but it also brings together two of the world's most successful technology creators. The problem for a company like Apple is that the cost of the commodity software which is DOS and Windows — because it is amortised over 20 million units a year — is sold at a price lower than we can create the software, because Apple can only amortise development costs across the few million units that we sell a year. So we had a choice of either saying 'We'll have to stop bringing innovation to the industry in the 1990's' or 'We will have to charge very high prices for that innovation.' Neither one of those alternatives seemed very attractive.

By bringing together two world class

technology creators we are able to amortise the development costs across a much larger number of machines, and not only Apple and IBM machines. One thing we pointed out in the press announcement is we are making it open to other vendors and to customers. In the past, there have been technologies from Apple that have been available only on Apple hardware. Now the new software technologies are going to be available to other people. These are very significant changes for us. It meant that we had to make some very soul-searching decisions inside of Apple, and IBM had to make some very soul-searching decisions, too. But I think that the state of the industry today is such a serious one — in terms of lack of innovation, in terms of the commoditisation of the industry, in terms of America potentially losing the leadership in many of these technologies unless something such as this alliance emerged — that it was important enough for IBM and Apple both to make some very fundamental changes. While it will be a few years before you will see some of the technologies that were announced in this agreement, there are some things you will see very quickly. One is that IBM will now support of the Macintosh and bring the Macintosh into their most important enterprise markets. Maybe that will come up in some of the questions and we can talk about that further.

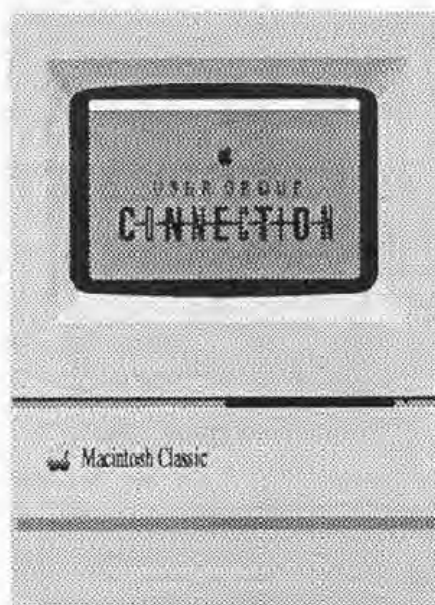
I wanted to let you be the first to hear from me that Apple is on a course that we started 18 months ago, that is going for a much bigger role in personal computing in the 1990's. We're breaking some of our own ground rules, but there are no more sacred cows at Apple in things that we won't do. The real test of all of this is: will it make a difference to users, will users appreciate what we're doing, and can we do it without compromising on the quality of the product and the innovation that we have been able to deliver in the past. I believe that the answer is going to be a solid Ryes' on that.

Why don't we begin with the first question.

Council Member: Apple is focusing on obtaining a larger market share, as shown by its introduction of low-end products, and the expansion of sales into non-traditional outlets. How will this affect end user support, and how far along non-traditional lines is Apple prepared to go to gain more share?

John Sculley: Well, that is a very good question. You are absolutely right, we are going for a market share. We will not see the most innovative software appearing on our Macintosh systems unless we do, because it would be a better profit opportunity for third party developers to write for alternative systems — even if those systems don't

have the full capabilities of the Macintosh. So we are very much expanding the share of market, and we're doing it not only with product development and pricing, but we're doing it with channels. The movement into superstores is one further example of that. Now we know that as we reach out to many new users — many who have never used a computer before — that we must provide other means of support. The 800 number is a good example of that. When we introduced System 7, we also introduced the 800 number on-line support. We've also introduced on a pay-per-use basis, support for customers. I think that you should expect to see that we will have more direct support relationships between Apple and customers.



One thing that is going to be very important in computers in the 1990's is communications. I think we are already seeing more and more computers being sold with modems built into them. I would hope that as time goes on that most of our computers would be sold with modems, and as that enabling capability is there, it is going to make it even easier to be able to deliver on-line support services to end users. I think there is an important role for the User Groups in this regard. If we can start to deliver to you as User Groups more information that you in turn can deliver to what will probably be a much larger user population coming into your User Groups, that all of these things are going to help us keep a real personal touch in our relationship with users and customers — even as Apple starts to expand the population of Macintosh users.

Council Member: The recently-announced Apple-IBM alliance presents significant opportunities for cross-platform development. What new functionality can end users expect in the

areas of connectivity and data exchange? How will Apple preserve the unique qualities of the Macintosh vs. DOS-based systems?

John Sculley: I think there are very few companies today that don't have a mixed environment of vendor products. If you have a Macintosh sitting next to an IBM PS/2 machine, or a Windows MS-DOS machine, or a Unix machine, it really isn't going to be effectively used unless it can be integrated across the network and connect into those other systems. What we are particularly excited about in the IBM-Apple relationship is that there are things that are going to start now, as well as things that are going to happen in the future. One of the things that is starting now is that IBM is now recognising Macintosh as a real player in their environments. IBM is going to be marketing connectivity products under their label to connect the Macintosh into their servers and systems. That may sound like a relatively simple statement, but if you just think and ponder on that for a moment of what that means — to have IBM give the endorsement of the Macintosh into large enterprise markets — I think it will have a tremendous impact of not only establishing credibility that the Macintosh is a full-fledged player that can walk in through the front door and not just the back door, but I think that it's going to attract third parties to want to do other things on top of those products. We are very excited about that.

We are also excited by the fact that IBM will actually be selling a version of Macintosh in the future. It is not the 68000 Macintosh that we all know and love — it is a RISC-based Macintosh built on a Unix kernel. I think that most of you are familiar with Macintosh's A/UX. What we're doing is we're porting Macintosh A/UX over to IBM's RISC architecture, and on top of IBM's AIX, which is their version of Unix. So this means that IBM customers, when this product is available, will be able to have access to all of the Macintosh productivity applications, and it means that those customers will also have access to all the AIX Unix applications. And it means that customers who are interested in seeing the Macintosh applications systems being offered by more than one vendor are going to be able to get it from either IBM or from Apple. So those are very dramatic changes for anybody who is involved with enterprise systems, whether it is in government or education or business. We think it will greatly expand the popularity of Macintosh and hopefully take a lot of fear, uncertainty, and doubt out of whether it is okay to buy a Macintosh.

Council Member: You've mentioned in the past that the single most impor-

tant market segment to Apple is education. With the current focus on building partnerships and market share in business, and the aggressive competition from K-12 and Higher Ed markets, define Apple's commitment to education.

John Sculley: Well, you've certainly touched something very close to my heart, because one of the things that attracted me to Apple computer was the chance to get involved with education with information technology tools. I was personally very disappointed about two years ago because I saw Apple losing its market share in K-12 education. We were having a lot of problems bringing the kinds of products to the K-12 market as a follow-on to the very successful Apple II that the K-12 market wanted. The result was that we weren't getting the kind of innovative software applications that we needed because we weren't providing the new computers for that market, and people were beginning to question whether Apple still cared as much about education as it had in the past.

I can tell you with a great deal of pride and satisfaction for all of our Apple people involved in education that there has been a dramatic turnaround in Apple's role in education since we introduced the Macintosh Classic and the Macintosh LC. Not only have our sales gone up significantly and our share market is now back up where we want it to be, but we saw more new software for education introduced in 1991 than we have ever seen in the past — and a lot taking advantage of the low-cost colour capabilities of the Macintosh LC. We have also seen a tremendous response to the Apple IIe card which goes inside the LC, so there is a bridge for people who have big installed bases of Apple II machines. I think we've got the momentum back in education. I think that people know that we really still care about it a lot, and as we bring out other technologies like multimedia with QuickTime and things of this sort — future editions of HyperCard — I think that education is going to find more and more reasons to point to Apple's real commitment to it.

Council Member: John, I've got a related question to ask. I'm speaking for the Apple II constituency. The Apple II is still a very useful and viable computer among millions of users in the home, small business, and education markets. What is Apple's vision of the future of Apple II technology with regards to these markets, and how does this relate to the Macintosh LC?

John Sculley: Well, the Apple II has been a phenomenally successful product. It will always be one of the legendary products that define this industry — much as I remember when I was growing up that the Volkswagen Beetle

was really the personal productivity version of the automobile. I think it was something that you said 'Yes, there is a car that is really me,' and I think that is what Apple II did so successfully. The best thing that we can do with the Apple II technology is to first of all, make it integrate as well as possible into the areas where we are putting our largest investment in technology creation — and that's with our low-cost Macintosh systems. The Macintosh LC is certainly an excellent example of that because it allows us to take advantage of the 1990's technology — meaning that we can take advantage of ASICs, of much faster processors. We can take advantage of system software capabilities that we can really only implement on the Macintosh. Yet to be able to integrate through communications the Apple II into that network world I think is very important. The other thing is that we developed the Apple IIe card because we wanted to have a way of bridging for those people who have large installed bases of Apple IIs — and the ability to add LCs to those installed bases. We also developed a series of cards — like the SCSI card or the video overlay card — for the Apple IIGS so that we can add capability to those machines, even though those machines might be several years old. Those are examples I think of how we've tried to keep the Apple IIe and the Apple IIGS still viable members of the Apple family. But recognising that the technology in this industry continues to move very, very rapidly and if we're going to live up to our other commitment to people — which is to bring them the very best and most advanced technologies that we possibly can at the very best prices — then we have to put the focus that we are on the Macintosh. Then we have to even look at things that go beyond the Macintosh, as we move further out in the decade. So we are selling Apple IIs, we will continue to sell them as long as there is demand for them. But most of our technology development is going into Macintosh products and trying to give a bridge for those Apple II users. Trying to extend the useful life of the Apple IIs with add-on cards and system software such as HyperCard for the Apple IIGS are examples of things we can do for the installed base. I think we have to sort of strike a balance between how we spend our resources.

Council Member: User Groups have traditionally provided end user support and education, filling voids that Apple has not or can not address. However, our function within Apple has never been well defined. What do you see as the real strategic value and role of User Groups?

John Sculley: Well, I was really made a convert to User Groups about six years ago by Ellen Leane and she is so enthusiastic as you all know. She really grabbed me by the hand and took

me around and said, 'You've got to see what happens out there with User Groups.' So I have been a strong supporter of the role of User Groups for really some time. We have today 1400 User Groups in the United States. That's about 400,000 members in the United States. There is nothing comparable anywhere else in the computer industry to the Apple User Groups. And the thing which I would like to see, particularly as we are now expanding the number of machines dramatically that we are selling, I would like to see a start to try to formalise the role that User Groups have in ways beyond what we have done so far. I think we have given recognition to the User Groups — the fact that you all come together as an Advisory Council each year, and I have a chance to meet with you is one example of that. I think that User Groups perform a tremendously valuable service, particularly in the area of training. I know that we are making efforts to try to get more materials to you, whether it is on CD-ROM, videotapes, or some of the collateral materials that we have when we introduce new products. I think we have to find more ways. And what I hope has come out of your discussions here at this Advisory Council are perhaps some suggestions, and hopefully a chance to raise the awareness of people inside of Apple to just how important the role of User Groups can be — not only for users, because I think you have demonstrated that, but also for the success of Apple. The feedback that I am getting from Apple people is that you've really made an impression on a lot of them. I am hoping that you'll see as you come back for future Advisory Council meetings that we've made even more progress on how we can formalise your role.

Council Member: HyperCard's original status as system software and its shift to Claris has created a great deal of concern and confusion. Apple has traditionally allowed dealers and User Groups to provide updates to system software. How does Apple plan to handle these types of upgrades in the future?

John Sculley: Apple has had to make some changes, not all of them popular. But in order to dramatically reduce the price of our products — remember a Macintosh Classic is about half the price of a Macintosh SE, and the Macintosh LC is about half the price of what the lowest cost colour Macintosh was before it — we had to decide what things to put in the base system. We had to ask, 'What do we make available to everybody? And what things are really not used by everybody, even though they may be enthusiastically used by some percentage of the population? And how do we make sure that we give the largest number of people the lowest possible price for the sys-

tems that we sell? In that context we moved HyperCard from a product that we gave away free, to a product that is now sold as an application — not a system software — by Claris. We have continued to invest very aggressively in HyperCard, not only with version 2.0 as you know today, but also with things that will be coming in the future with future versions of HyperCard. We want it to grow in terms of its capabilities. There is actually a relatively small percentage of Macintosh users who use HyperCard. But the users who do use HyperCard are fanatics about it. I suspect that there isn't one of you here who hasn't written some HyperCard stacks, or probably has some very strong opinions about the important role of HyperCard. We had to make some tough business calls that had to deal with expenses and our ability to bring dramatically lower price levels for Macintosh to users. We made a few people probably a little bit unhappy along the way. I hope we made other people have a chance to use a Macintosh who might not have been able to afford it otherwise. And yes, we are going to continue to have future releases of HyperCard. And no, it is not sold as system software in Macintosh as it used to be. But it does have very strong support from Apple, through our Claris subsidiary.

Council Member: Apple prides itself as providing future-oriented solutions and enabling 'growth without disruption.' How strong is Apple's commitment to satisfying the upgrade needs of loyal customers, including users from the Apple II to the top of the Macintosh line? Will Apple, for example, allow present Macintosh users to take full advantage of the wonderful features of System 7 by providing 32-bit-clean ROM upgrades, which in some instances are even needed to make CPUs meet specifications touted at the time of sale?

John Sculley: I don't think that there is a company that has taken more seriously the upgrade of its installed base than Apple Computer has. The fact is that we are dealing with technology that is constantly changing. Apple, at the same time that it is trying to focus on the needs of the installed base, is also trying to push the envelope of the most innovative advances in software technologies that it possibly can. This is the philosophy that was clearly behind the introduction of System 7. We could have just focused System 7 on a certain class of machines at the very high end of the product line, but as you know System 7 is able to run on any Macintosh, starting with the Macintosh Classic that has 2 megabytes of memory and a hard drive. As you move up through the product line, you are able to get more and more advantages from some of the features of System 7. So if you have Memory Management

Unit, you are able to do things that you couldn't do on a Macintosh Classic. There are products in our line that we wish had more of the capabilities that we have in some of the newer products. A good example of that is the SE/30 and the Macintosh IIfx, which do not have the 32-bit-clean ROMs that you referred to in your question. We are looking at what we can do with the ROMs in those products. But those ROMs were not designed with that in mind at the time, because that wasn't part of the technology that existed at that time. As new technologies have been created like 32-bit-clean, we have made sure that those products that have the PMMU, that they do have the 32-bit-clean. So we tried to be very consistent in what we say to the installed base — that we want to bring you along as best we can. Sometimes it just isn't easy to do, as in the example you pointed out with 32-bit-clean. It



doesn't mean that we don't continue to look at that and we aren't evaluating it and trying to find ways to do it. It also doesn't mean that there aren't innovative third party companies out there who are looking for software solutions that will try to fill a gap. But some of these things are not easy to do, and again Apple has got to make tough choices with our resources. We can't, unfortunately, give it you both ways. We can't say we will dramatically lower our gross margins, therefore lower the prices, therefore focus our technology on bringing out new products which customers are demanding — like Classics or LCs or low-cost printers — and then somehow miraculously say that we can go and do all the things that we always did in the past when we had a lot more resources. So we've had to make some choices which aren't easy ones. But for the most part I think we've been pretty consistent in trying to stick with bringing our installed base along as best we can. I think it's

a direction that has been consistent with Apple over a long period of time and one which is still pretty unique in this industry.

Council Member: Apple's product line has consistently reflected a commitment to bringing innovative technologies to the personal computer market. What emerging technologies do you see steering Apple's research and development efforts over the coming years and who will be the beneficiaries?

John Sculley: I think that I can speak with some knowledge of that because for the last 18 months the most important role that I've had at Apple has been to focus on our technology directions. What we have been looking at are those technologies which will make the personal computer even more personal in the 1990's. We're looking at the things that will allow us to have the kind of breakthroughs in software and hardware technologies that will be the equivalents of what Lisa and Macintosh were in the 1980's, or the Apple II was back in the 1970's. That is going to include things like object-based systems technologies, which I talked about in my opening remarks. It's going to include multimedia technologies such as QuickTime, which introduces temporal management. When personal computers were conceived, no one really thought about time management. But when you want to deal with animation and text and graphics and video, you want to be able to edit those. Temporal management device control — for things like compression algorithms that will let you do video compressions in software — these are important technologies.

You will see from Apple in the future some great things in miniaturisation. We believe that the personal computer will not have to be something that you go to for so many minutes a day, and then when you're not at your desk, you cannot do personal computing. In the 1990's, miniaturisation and mobility are clearly going to be important technological areas for advancement. Computers will get smaller and smaller — laptops, notebooks, hand-helds. Communications will be built into computers. At Apple you would expect us to build it into the basic architecture, not just bolt it on — so that is something that we are paying a lot of attention to. Wireless communications will be, I think, as important as wired communications. We'll see new input technologies, including handwriting, gestures, speech. So there are some remarkably exciting technologies that I think Apple will continue to be able to be the leader in bringing to users in the 1990's as we did in the 1980's.

The problem is that the investment of bringing out a new product as revolutionary as the Macintosh in the 1990's

is at least 10 times more expensive. The investment also high for third party products — which are no longer MacWrite and MacPaint, as when we introduced the Macintosh — but connectivity products, printing products, peripheral products, networking products. Things like this can actually go up into the billions of dollars. The only way that Apple could continue to fulfil its role as the innovator in the industry for users was to begin to open its technologies up and to begin to work with other companies. That is a lot of what is behind the IBM-Apple relationship. We very definitely don't want this to be a commodity industry. There is no reason why the industry should be held back to 1980 technologies when there are some wonderful new things on the horizon for the 1990's. I can tell you that we are even more committed to being an innovator in the 1990's than I think anybody else. We think that there is still a revolution ahead. It's in the hands of users and it's our job to make sure it gets there quickly.

Council Member: John, you've consistently expressed considerable personal support of User Groups and their role as Apple partners. What can you do in the next business year to extend this commitment throughout the company?

John Sculley: I think that we have to raise the profile of User Groups throughout the company. Just the fact that I come and I meet with the Advisory Council doesn't go unnoticed across Apple. There is a lot of traffic over AppleLink about the Advisory Council meetings. Many of the ideas that are brought up end up on bulletin boards and people discuss them and debate them. In typical Apple fashion there is usually pretty heated debates about some of these issues, and I think that is all very positive. It reinforces that Apple is the user's company and that we started in a user's club — the Homebrew Computer Club. Steve Wozniak created the first personal computer to show to his friends at a user club. There aren't many computer companies that began in a user's club. So people talk about Apple beginning in a garage — it really began in a user club. I think that those roots have held, and are definers of what Apple still is today. So I would hope that the role of User Groups becomes more formalised, becomes more highly profiled. Particularly as Apple starts to move out to new channels — high volume channels where users are probably going to know less about computers when they walk in — User Groups are going to be even more important. User Groups will help in filling the gap between the knowledge of that user when he walks out with his first Macintosh and what that user is going to want to be able to do once they realise the capabilities of Macintosh. I think that the training role of the User Group becomes far

more important in the 1990's than it was perhaps in the 1980's. I'm going to do everything that I can to try to get that message out across Apple, and I'm sure that you will try to do the same — so between the both of us, I hope we're successful.

Council Member: There have been remarkable changes in global economies and politics in the last year. How do these changes — for example in Eastern Europe — affect Apple's marketing and technology development plans?

John Sculley: I think that the changes that are going on in Eastern Europe are remarkable. I remember when we introduced the new products last fall, the Macintosh Classic, the Macintosh LC, and the Macintosh SE. We had a live satellite two-way communications with a group of users who had just received their first Macintosh in East Germany days before the launch of the product. To be perfectly honest, we all had a lump in our throat. It was a very emotional moment because we were listening to people who had just been freed from a totalitarian system, who had just joined the free world. And what they were talking about was freedom of their rights as individuals, and the freedom to publish and to use tools that they had only heard of and never had the chance to touch before — and that was the Macintosh desktop publishing system. They showed us what they could do with their first newsletters that they were creating. This is happening all across Eastern Europe, it's happening across the Soviet Union. I travelled to that part of the world. We're actively marketing products in Eastern Europe today. We're doing the same thing in the Soviet Union. And when we talk about changing the world, if you ever wanted to see it in real life happening, then you ought to go over there. Computers are probably having more impact in those former totalitarian countries than perhaps anywhere else. These people for the first time are able to get a tool, a technology tool, that actually allows them to do the things that we talk about in abstract terms when we say freedom.

Council Member: AppleLink is a very innovative and exemplary means of taking advantage of computer communication technology. While Apple Link still has tremendous potential for uniting and serving the Apple community, its usefulness

has been severely hampered by the present rate structure, and the abandonment of AppleLink Personal Edition. How will Apple address this situation?

John Sculley: We have about 40,000 users on AppleLink today, and since we have 15,000 employees at Apple that means that there are about 25,000 people who aren't employees who

are using the AppleLink services. As we went to the new financial model — which was to bring down gross margins and dramatically reduce the prices of our products — we had to go look across every area of expense in the company. AppleLink service was another example of that. We couldn't afford to subsidise people on a service if that was going to mean that we'd have to sell our computers at a higher price. What we are doing though is that we're trying to adjust to the fact that there are a lot of people who still want to be able to get on AppleLink, but they may not be able to afford the price structures that we have today. So there is development work going on inside of Apple. Keep in mind that the AppleLink services are provided by a third party company, not by Apple, and therefore we have to pay the third party company. If we can do some of those things with Apple's own technology, there is a potential of being able to bring the cost down. And if we can bring the cost down, then obviously we'd like to be able to bring the prices down. So while I cannot announce anything today, I can tell you there is very active development going on to see if there is a less expensive way that we can deliver some of those services. I believe as more and more Macintosh computers are sold with modems in them, there is going to be even more interest for those kind of services. And as we start to deliver more on-line support to customers, via modems, there are going to be more incentives for people to want to have these services out there. So I think that all of the momentum of change that is going on inside of Apple, inside the industry, is going to work favourably to the advantage of users in the future.

This is always one of the highlights for me, to actually get a chance to talk with all of you, because you are out with users all the time. I hope that you will take back to those you talk to personally the message that I care a lot about what you are doing, and that Apple cares a lot about what users want to do with their products. We hope the relationship between users and Apple gets even stronger in the future. Thank you. **John Sculley**



□ User Group Bulletin Board User Group Resource Folder From Apple: UGAC

DreamGrafix™

Press Release

Product: DreamGrafix (tm)
Retail Price: \$99.95 + shipping
Publisher: DreamWorld Software
 P.O. Box 830
 Iowa City, IA 52244-0830
Computer: Apple IIGS
Availability: Currently shipping

□ DreamWorld Software is a new company which is dedicated to developing and marketing productivity and entertainment software exclusively for the Apple IIGS.

DreamWorld Software is proud to announce the release of its first product, DreamGrafix. DreamGrafix is the ONLY paint program which allows users to edit pictures with 16 dithered colors in 640 mode, 16 colors in 320 mode, 256 colors in 320 mode, and 3200 colors in 320 mode in ONE single software package.

Not only is DreamGrafix a 3200 color paint program, it is also a full-featured paint program, which offers more features than other popular paint programs on the market.

DreamGrafix allows users to use the same tools found in other paint programs on pictures which display 16 colors, 256 colors, and 3200 colors.

□ In addition to these standard tools, DreamGrafix has extended features for dealing with the unique situation of working with pictures which display more than 16 colors. No other paint program for the Apple IIGS can make this claim.

□ DreamGrafix introduces the Apple IIGS user to the exciting possibility of working with Super Hires pictures which display more than the standard limit of 16 colors on the screen. DreamGrafix allows users to work with Super Hires pictures which can display up to an amazing 3200 colors on the screen.

□ Using the Super Hires 3200 color mode on the Apple IIGS, it is possible to display color pictures of photographic quality. Not only does DreamGrafix allow the user to load in and display 3200 color pictures, DreamGrafix also allows users to edit and save the picture using several powerful tools and editing modes.

□ Now it is possible for every Apple IIGS user to exploit the amazing graphics capabilities of the Apple IIGS using DreamGrafix.

List of Features

□ Load, display, edit, and save 16 color, 256 color, AND 3200 color Super Hires pictures in 320 mode and 16 dithered colors in 640 mode.
 □ Support for ALL recognized Super Hires graphics formats on the Apple IIGS including PaintWorks (tm) for-

mat, Apple Preferred format, French 3200, PackBytes format, and DreamWorld proprietary format with LZW compression.

□ Support for PaintWorks animation files with virtual memory feature for animations larger than available memory, and animation through color cycling. With DreamGrafix, animations are only limited by disk space!

□ Multiple graphics editing modes:

- Standard 16 color editing mode in 320 mode

- 16 dithered color editing mode in 640 mode

- 256 color multiple palette editing mode

- Partial 3200 color, fast editing mode

- FULL Screen, FULL 3200 color editing mode

- Mini 3200 color editing mode with integrated palette and fatbits editor

□ Powerful editing and drawing tools for all display modes:

- Standard drawing tool set found in most paint programs such as pencil, line, rectangle, arc, variable air brush, oval, etc.

- Extended editing features such as closest color mode, force closest color mode, closest color sort, intensity sort, dispose color

- Comprehensive brush manipulation tools such as double, halve, rotate, resize, custom brushes etc.

- Flexible fill tool with different color modes and fill modes

- Full Screen fatbits with four magnification sizes including FULL 3200 color fatbits mode, with all tools functional

- Extensive color editor with support for preset colors, spread, lighten, darken, and three different ways of editing individual colors

- Extensive palette editor with support for multiple palettes in 256 color mode featuring palette markers on the screen border

□ Supports all system print drivers, including support for 256 color printing on the ImageWriter II(R).

□ Revolutionary User Interface:

- Standard Apple desktop user interface with pull-down menus and dialog boxes

- Additional tool bar with three dimensional tool buttons

- User configurable scrolling tool bar and an extra user configurable fixed tool bar

- Intuitive keyboard equivalents for most commands

- Visually appealing design with colorful icons for each tool button

□ Configurable user preferences

□ User expandable through program-mable external commands for custom tools, commands, features etc.

□ Online help for all tools

□ GS/OS based for compatibility with all Desk Accessories, current and future printer drivers, device drivers, FSTs and future System Software

□ Compatible with all system accelerators

□ Supports Apple Extended Keyboard function keys.

□ Written in assembly language for speed and efficiency

□ Comprehensive 100+ page manual, bound in a sturdy three ring binder

□ Bundled with DreamVair(tm), a 16/256/3200 color picture slideshow program with integrated background SoundSmith(tm) songplayer

□ No copy protection. Hard drive installable

□ and much more...

DreamWorld Software consists of Apple IIGS users who are dedicated to producing quality software for the Apple IIGS.

We are always working on enhancements, additions and extensions to DreamGrafix, and these will be available to registered users as soon as possible.

System Requirements

The minimum equipment configuration required to use DreamGrafix is as follows:

- Apple IIGS w/ 1.125 Mbyte of memory (Rom 01 or Rom 3)

- System Disk v5.04 or higher

- One 3.5 inch disk drive

- RGB color monitor (recommended)

* DreamGrafix does not require any extra hardware to display 3200 color pictures.

Ordering Information

DreamGrafix is available through direct mail order from DreamWorld Software. To order DreamGrafix, please send a check or money order to the following address:

DreamWorld Software
 P.O. Box 830
 Iowa City, IA 52244-0830
 (319) 338-6491

DreamGrafix is available NOW at a special introductory offer of \$64.95 for a limited time only.

You can also order DreamGrafix by phone using Master Card or Visa.

Please include \$5.00 for shipping and handling for orders within the United States, \$10.00 for Canada, and \$20.00 for orders outside the United States.

* Apple IIGS and Image Writer II are registered trademarks of Apple Computer Inc.

DreamGrafix and DreamVair are trademarks of DreamWorld Software.

PaintWorks is a trademark of Mediagenic

SoundSmith is a trademark of F.U.N.

The Nibbler Speaks



□ The sharper eyed among you will have noticed that we have dropped the local User Group list from the magazine. This was simply because we found it impossible to keep it valid and up to date. If a User Group ceased to be, or changed its contact point, it was often impossible to find out new details. We could have spent all day on the phone and got nowhere. We shall try again to build a list. If you are the secretary or press officer of a local group, please send all your details, by post, to Apple2000. If any of these details ever changes, please send us an update. If we get a reasonable list together and can be sure it is accurate, we shall publish the list once more.

In the meantime we have news that the NorthWest Apple Computer Club is very much alive and well. The current contact is Jim Lacy (secretary), 4 Toller Court, Kemps Field, Widdowick, CW10 0TE. Tel: 0606-847785. Call Jim for details of the clubs programme and meeting point.

I am reminded that if you have an MS/DOS computer you might like to contact the PC Independent User Group who cover these machines. They are run on much the same lines as ourselves being non-profit making as well. They can be contacted at The Computer Advice Centre, 87 High Street, Tonbridge, Kent, TN9 1RX. Tel: 0732-771512.

□ We have had a plea for help from a dealer in Ipswich. Ideally he would like someone in the Ipswich area to contact them, but failing that anyone who can help. The dealer has a customer with upwards of fifty disks which we think contain CP/M Wordstar files. The customer is changing to a Macintosh and so needs these files transcribed to 3.5 inch format disks. It does not matter if they are ProDOS or Macintosh. Any member in the area, or beyond, who has a CP/M card, 5.25 inch and 3.5 inch disk drives

and a copy of Chameleon (from our library) and some time, could do the job. There will of course be a financial reward for doing this.

If you are interested, contact Phil Lawrence, GETECH, Unit 5, Sovereign Centre, Farthing Road, Ipswich, IP1 5AT. Tel: 0473-240470 or Fax: 0473-740318.

□ The Apple Programmers and Developers Association has recently dropped its subscription charge. While you purchase items from them you will continue to get copies of the catalogue. This prompted me to wonder how you got hold of the APDA Tools Catalog in the first place to know what to buy! A visit to the Apple technical help stand provided the answer. You simply write to APDA, Apple Computer Inc., 20525 Mariani Avenue, M/S 33-G, Cupertino, California 95014-6299, USA. Tel: (408) 562-3910.

You will be sent a free copy of the catalogue and when you have returned the signed International letter of assurance, you will be able to buy from the catalogue. APDA supply all the technical notes, programming environments, tools and reference books for the entire Apple range.

□ The scanner wars are hotting up. The MacUser show saw a large number of scanners destined for the Mac. Many of these are now colour with resolutions at up to and sometimes over 600 dots. A reasonable colour scanner can now be got for under £2000! Apple themselves were showing their new OneScanner. This looks at first sight much like their old scanner, but internally it now supports 256 grays, and has some clever software that is a dramatic improvement from AppleScan. The new Ofoto software will even straighten a misplaced image!

In conjunction with the improved scanning now available, Apple have launched two new LaserWriters, the IIf and IIfg. These replace the older IINT and IINTX printers. The main difference with the new printers is the inclusion of PhotoGrade technology. On the older printers, any attempts to print a decent half-tone image were usually met with a smudged low resolution print. Trying to print at more than 60-70 dpi would usually clog the dots and cause a blotchy effect. The new

PhotoGrade technology has managed to make the laser print a variable sized dot. The result is dramatic to say the least. An example I was shown of a photograph that had been scanned and printed on the LaserWriter IIfg was indistinguishable from the original. This should bring the leading edge back to Apple in the printer stakes.

□ The MacUser show had the usual crop of new and unusual items. Perhaps the most interesting for me, and judging by the crowds round the stand for others as well, was a new version of the famous Quantel paintbox that will link to the Mac. The new mini-Quantel will take a standard colour image from the Mac and manipulate it in a way that would normally be impossible with the paint tools we have become used to. It can then be returned to the Mac and placed in a DTP program as usual. Mind you, at a price tag of around £80,000 it is not cheap. This is the face of the future though. Once a decent desktop colour scanner at the quality of commercial colour scanners is available, we should see this kind of thing in the design studio.

□ One of the hot sellers at the MacUser show was the Agfa Font CD-Rom. Although you can pick up this disk for a song, it only contains useable fonts in the form of screen fonts. To unlock the actual outline printing fonts you will need to pay for an unlocking key for each font. To unlock the complete disk might cost you over £20,000!

CD-Roms are at last appearing for actual software as opposed to just information sources. I recently saw a new adventure game that could only have been supplied on Rom as the game contained hundreds of superb high resolution screens. It is played by using the point and click method with text entry every so often. With a practical limit of over 600 mbs, a CD-Rom is the perfect way to present such a game.

I would think that the limit was on the artists rather than the Rom. We have included a new version of that old favourite Eliza on one of the Xtras disks this month. What a program that would be if the responses were stored on CD-Rom!

The Nibbler

MacLine

123 WESTMEAD ROAD • SUTTON • SURREY • SM1 4JH • VAT No 452 3149 66

FAX 081 642 4621
081 642 2222

⑦ means works with System 7.0
no symbol simply means unknown at this time

WORD PROCESSING

| WP APPLICATIONS | |
|---|---------|
| MacWrite II ⑦ (powerful yet straightforward WP) | £150.00 |
| Microsoft Word 4 ⑦ (feature and function laden WP) | £165.00 |
| Nisus 3.0 ⑦ (not WP with graphics, GREPS, macro language) | £215.00 |
| Taste ⑦ (new low cost entrant to a crowded WP market) | £95.00 |
| Vantage ⑦ (full featured DA especially good at converting DB files) | £157.00 |
| WordPerfect 2.0 ⑦ (not new version of famous PC WP) | £199.00 |
| Write Now 2.2 ⑦ (last straightforward WP, a doddle to use) | £85.00 |
| WP UTILITIES & AIDS | |
| Acta Advantage ⑦ (stand alone and DA outliner) | £79.00 |
| End Note ⑦ (bibliography database desk accessory) | £95.00 |
| Expressionist 2 (create accurate equations from this DA) | £85.00 |
| Grammar 2.0 ⑦ (comprehensive grammar checker) | £79.00 |
| Inside Information (brainstorming tool associates words/ideas) | £79.00 |
| Thunder 7 ⑦ (consistent spelling checker even works in Quark) | £59.00 |
| Wordfinder (DA Thesaurus for any application) | £39.00 |

DATABASES

| RELATIONAL | |
|--|---------|
| 4th Dimension ⑦ (heavyweight of the databases) | £599.00 |
| Double Helix ⑦ (easier DB for starter programmers) | £445.00 |
| FileForce ⑦ (much easier to use and upgradeable to 4D) | £250.00 |
| Filebase-Mac 2 ⑦ (last DB with great interface reads database) | £345.00 |
| Omni 5 ⑦ (now much faster and more Mac-like interface) | £495.00 |
| FLAT | |
| DAIbase ⑦ (flat file DA for quick convenient access to data) | £75.00 |
| FileMaker Pro ⑦ (best flat file DB ever - everyone needs it) | £195.00 |
| Panorama ⑦ (flat file DB, very powerful and very quick) | £195.00 |
| DEDICATED | |
| C.A.T. 3.0 ⑦ (salesman's dream, contacts activities time) | £325.00 |
| Dynadex ⑦ (remarkable tool for managing/printing contacts) | £89.00 |
| QuickDex II ⑦ (phenomenal DA rolodex card database) | £35.00 |
| TouchBase ⑦ (networkable contact database) | £95.00 |

BUSINESS

| SPREADSHEETS | |
|---|---------|
| Microsoft Excel 3.0 ⑦ (leading spreadsheet, new features) | £225.00 |
| One Shot Worksheet ⑦ (if you don't need all that power) | £59.00 |
| Resolve ⑦ (Claris Corp's new spreadsheet) | £225.00 |
| WingZ ⑦ (amazing spreadsheet includes charting and script) | £245.00 |
| SPREADSHEET BASED SOLUTIONS | |
| Power Macros for Excel ⑦ (shows off Excel's macro language) | £49.00 |
| Business Plan Toolkit ⑦ (Excel budgeting and forecasting) | £99.00 |
| Sales & Marketing Toolkit ⑦ (comprehensive forecasting) | £110.00 |
| BUSINESS GRAPHS & CHARTS | |
| Cricket Graph (original colour graphing tool for the Mac) | £110.00 |
| DeltaGraph ⑦ (powerful flexible graphing tool) | £95.00 |
| GraphMaster ⑦ (very good and system 7.0 savvy as well) | £180.00 |
| KaleidaGraph (highly rated US graphing package) | £149.00 |

| SIMULATORS | |
|---|---------|
| Extend (powerful simulator with built-in language) | £320.00 |
| iTHINK (powerful straightforward simulator from Stella tools) | £325.00 |

| INTEGRATED SOFTWARE | |
|--|-------------|
| BeagleWorks ⑦ (the latest entrant into the Works stakes) | £195.00 |
| ClarisWorks ⑦ (in with a bang and the best of the bunch) | £175.00 |
| GreatWorks ⑦ (best value integrated prog for new users) | £89.00 |
| Microsoft Works 2 ⑦ (WP, DB, Comms, Draw, Spreadsheets) | £125.00 |
| Microsoft Office ⑦ (Excel, Word, PowerPoint, File, bundle) | £425.00 |
| Microsoft Office CD ROM ⑦ (as above) | £495.00 |
| WordPerfect Office ⑦ (not to be outdone, WP strike back) | from £95.00 |
| PROJECT MANAGEMENT | |
| KeyPlan (develop in outline then zap you are in critical path) | £235.00 |
| MacProject II ⑦ (powerful yet straightforward and flexible) | £315.00 |
| MacSchedule 2.5 (less heavyweight project scheduling) | £115.00 |
| Microsoft Project ⑦ (the big red's entry) | £365.00 |

| ACCOUNTING | |
|---|---------|
| Pegasus Accounts ⑦ (from small business to corporation) | £395.00 |
| EuroPay ⑦ (popular payroll program) | £275.00 |
| MacMoney 3 UK ⑦ (unbeatable home accounts and small biz) | £75.00 |
| Ritz ⑦ (powerful and comprehensive acts for smaller business) | £340.00 |
| Path ⑦ (best accounts package for the non acct literate) | £175.00 |

| PRESENTATION | |
|--|---------|
| Cricket Presents (established presentation software) | £275.00 |
| More III ⑦ (extensive outlines/text/presentation capability) | £89.00 |
| Persuasion 2.0 ⑦ (high end presentations with outlines) | £295.00 |
| PowerPoint ⑦ (powerful intuitive easy presentations) | £189.00 |

GRAPHICS

| PAINT & DRAW | |
|--|---------|
| Canvas 3.0 ⑦ (high end draw/paint package very good at layers) | £245.00 |

| | |
|--|---------|
| Cricket Draw II ⑦ (updated at last) | £150.00 |
| Desk Paint 3.0 ⑦ (very good DA paint and draw package) | £125.00 |
| MacDraw II ⑦ (easy to use yet powerful draw package) | £155.00 |
| MacDraw Pro ⑦ (now upgraded and hugely powerful) | £275.00 |
| MacPaint II ⑦ (the original Mac painter) | £89.00 |
| MacPaint ⑦ (super cheap 32 bit colour paint tool) | £59.00 |
| Oasis ⑦ (marvellous new 24 bit colour mimics oils etc) | £405.00 |
| Painter ⑦ (similar to Oasis in features but cheaper) | £225.00 |
| Pixel Paint Professional 2.0 ⑦ (32 bit, the rest as above) | £475.00 |
| SuperPaint ⑦ (classic paint and draw software) | £130.00 |
| Studio 1 ⑦ (unique animating paint package) | £75.00 |
| Studio 8 ⑦ (full featured high end colour paint program) | £145.00 |
| Studio 32 ⑦ (32 bit version of the above, 5 mine MacDraw) | £365.00 |
| UltraPaint ⑦ (knockout colour paint and draw program) | £125.00 |

| DARKROOM & RETOUCHING | |
|---|---------|
| ColourStudio ⑦ (powerful retouching, free Shapes) | £695.00 |
| Digital Darkroom ⑦ (monochrome photo retouching) | £250.00 |
| Image Studio ⑦ (monochrome photo retouching) | £145.00 |
| Jag ⑦ (anti-aliases PICT and PICS graphics) | £79.00 |
| PhotoShop 2.0 ⑦ (king of the photo retouching packages) | £695.00 |

| CAD & MODELLING | |
|--|---------|
| Claris CAD 2.0 ⑦ (straightforward powerful CAD) | £495.00 |
| Infini-D ⑦ (leading the pack in modelling & rendering) | £495.00 |
| MacRenderman ⑦ (the best rendering tool for 3D images) | £545.00 |
| MiniCad (maxi CAD performance) | £435.00 |
| Model Shop 2.0 ⑦ (3D solid object modelling tool) | £445.00 |
| Ray Dream Designer (3D modelling & rendering) | £595.00 |
| StrataVision 3D 2.0 ⑦ (24 bit photo realistic rendering) | £495.00 |
| Swivel 3D Pro ⑦ (now supports 24 bit colour) | £355.00 |
| Super 3D 2.0 (flexible colour 3D tool) | £325.00 |
| Virtus Walkthrough ⑦ (draw in 3D and fly through the model) | £295.00 |
| POSTSCRIPT GRAPHICS | |
| Freehand 3.0 ⑦ (PostScript drawing with text manipulation) | £315.00 |
| Illustrator 3.0 ⑦ (power PostScript text and layout ability) | £375.00 |
| EPS Exchange ⑦ (save Freehand files in Illustrator format) | £89.00 |
| Streamline ⑦ (best PostScript auto tracing tool) | £145.00 |

DESKTOP PUBLISHING

| DTP APPLICATIONS | |
|---|---------|
| Creative2 ⑦ (PageMaker and FreeHand in one) | £695.00 |
| DesignStudio ⑦ (high end DTP program) | £475.00 |
| FrameMaker ⑦ (pro publishing also on UNIX and NEXT) | £575.00 |
| Multi Ad Creator (specialised DTP for laying out adverts) | £690.00 |
| PageMaker 4.0 ⑦ (one of the two heavy hitters) | £475.00 |
| Personal Press (new baby brother for PageMaker) | £175.00 |
| Publish II Easy 2.0 ⑦ (MacUser US best DTP winner) | £145.00 |
| Quark Xpress 3.0 ⑦ (the other of the two heavy hitters) | £475.00 |
| Quark Xtras ⑦ (goodies that add to Xpress' features) | £69.00 |
| Ventura Publisher ⑦ (finally migrates from DOS world) | £595.00 |

| DTP AIDS & FONT MANIPULATION | |
|---|---------|
| Mariah ⑦ (database for your graphics, search, keywords) | £99.00 |
| DataShaper ⑦ (database publishing tool) | £225.00 |
| LetraStudio (powerful headline font manipulation software) | £215.00 |
| Pre Print ⑦ (colour separates your PageMaker output) | £365.00 |
| SuperGlue 2 (transfer, glue and paste incompatible documents) | £85.00 |
| TypeStyler ⑦ (manipulates PostScript fonts) | £155.00 |
| TypeAlign ⑦ (draw a wiggly line and type text, needs ATM) | £79.00 |

PC COMPATIBILITY

| | |
|---|---------|
| Access PC ⑦ (read PC files direct from floppy) | £59.00 |
| DOS Mounter ⑦ (same as above) | £59.00 |
| DOS ReadDA (DA that allows Mac to read and write to PC disks) | £74.00 |
| MacLink Plus ⑦ (popular Mac/PC link with 100's translators) | £135.00 |
| Soft PC Universal ⑦ (allows running of PC software on a Mac) | £255.00 |
| Soft PC Entry Level (for LC and Classic users) | £120.00 |
| SoftNode (access a Novell Network) | £105.00 |
| Tops Flashcard (LocalTalk card for PC works with Tops DOS) | £110.00 |
| Tops DOS 3.0 (PC version of Tops for Apple networks) | £125.00 |

COMMUNICATIONS

| SOFTWARE | |
|--|--------------|
| Classcom ⑦ (but flows version of Vicom for basic comms) | £75.00 |
| Vicom Connect (famous UK package easy to use yet powerful) | £140.00 |
| White Knight ⑦ (very powerful, Red Ryder upgrade) | £99.00 |
| ZapFax ⑦ (allows 5 users to access InterFax on network) | £145.00 |
| HARDWARE | |
| DoveFax (excellent send and receive fax modem) | £266.00 |
| TelePort Fax Modem ⑦ (re great product at a great price) | from £195.00 |
| WS3000 Modem (rock solid 1200 BAUD modem) | £235.00 |
| WS3000 V22 BIS (rock solid 2400 BAUD modem) | £295.00 |
| Courier HST dual standard (last modem for DTP trainer) | £645.00 |

NETWORKING

| SOFTWARE | |
|--|---------|
| Carbon Copy ⑦ (unlimited remote users in one zone) | £225.00 |

| | |
|--|--------------|
| DataClub II ⑦ (new pretender to Tops crown) | from £235.00 |
| EtherPeek (monitor Ethernet networks) | £525.00 |
| GraceLAN 2.0 ⑦ (jussy name, good network analysis) | £745.00 |
| Liaison (print router and network dial in) | £245.00 |
| LocalPeek (monitor LocalTalk networks) | £265.00 |
| Microsoft Mail ⑦ (classic, powerful E-Mail) | from £165.00 |
| Network Font ⑦ (design your own Networks with NetFont) | £75.00 |
| NetOctopus ⑦ (network analysis program) | from £395.00 |
| QuickMail 2.5 10 User ⑦ (powerful flexible E-Mail) | £320.00 |
| Timbuktu 4.0 ⑦ (remote access software for networks) | £85.00 |
| Timbuktu Remote ⑦ (remote access software for modems) | £130.00 |
| TOPS Classic (out down, cheaper version of below) | £95.00 |
| TOPS 3.0 (classic file sharing software without dedicated Mac) | £145.00 |

| HARDWARE | |
|--|--------------|
| Anet (AppleTalk connector boxes) | £25.00 |
| MacNet (PhoneNet connector boxes) | £79.00 |
| Ethernet Boards (thick thin wire or twisted pair versions) | from £235.00 |
| NetModem ⑦ (share one modem over entire network) | from £335.00 |
| NetSerial ⑦ (share serial devices on network) | £250.00 |
| NetBridge (bridge networks for extra speed etc) | £365.00 |

HARDWARE

| INPUT DEVICES | |
|---|--------------|
| Floppy Drive 800K (add-on external floppy) | £135.00 |
| Floppy Drive 1.44Mb (add-on external floppy) | £239.00 |
| Gravis MouseStick ADB (perfect for Flight Simulator) | £59.00 |
| Extended Keyboard (15 function keys, numeric pad) | £105.00 |
| Kurta Graphics Tablet | from £365.00 |
| Wacom Graphics Tablet (pressure sensitive) | from £495.00 |
| Calcomp Drawing Board II (pressure sensitive tablet) | £349.00 |
| Logitech MouseMan (small alternative mouse) | £69.00 |
| MacMike ⑦ (microphone and software for Macs without mikes) | £42.00 |
| MacRecorder II ⑦ (classic cult sound digitiser with software) | £165.00 |
| Optical Mouse ⑦ (no ball to get dirty and stick) | £99.00 |
| Voice Digitiser (as above without sound edit software) | £95.00 |
| Voice Navigator II (most sophisticated voice recognition yet) | £495.00 |

| CHIPS & BOARDS | |
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| SIMMs | see box |
| Brainstorm (more than doubles the speed of a Plus) | £175.00 |
| DoubleUp (NuBus board and compression software) | £215.00 |
| Math Co-Processor Mac LC (speed up your LC) | £95.00 |
| New Life (25MHz 040 accelerator for Mac Plus and SE) | £725.00 |
| Now Life Classic (16MHz 030 accelerator for Mac Classic) | £525.00 |
| 256 colour VRAM Mac LC (upgrade your LC to 8 bit) | £95.00 |
| Radius Rocket (faster than an FX, 25MHz 040 accelerator) | £1595.00 |

ACCESSORIES

| | |
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| Cables (those not shown below) | call |
| SCSI cable | £15.00 |
| SCSI extension 1m or 2m | £24.00 |
| SCSI to SCSI 1m or 2m | £19.00 |
| Modem cable | £10.00 |
| ImageWriter cable | £7.00 |
| Diskette storage box for 80 discs | £9.00 |
| Mouse Mat (speed pad - white with MacLine logo) | £6.00 |
| Dust Covers (for most Macs) | £9.00 |
| Wrist Rest (eases Carpal Tunnel problems) | £15.00 |
| Anli Glare Screens (eases eyestrain) | from £35.00 |
| Security Cable System (is your Mac vulnerable to theft?) | £35.00 |
| Mac II Stand (vertical floor stand with long cables) | £65.00 |
| SE/Plus/Classic Tilt & Swivel stand (a bargain) | £24.00 |
| Mac Carry Bag (Plus, SE, Classic and LC/12") | from £40.00 |
| Toolkit (necessary to open Plus, SE or Classic) | £15.00 |

CONSUMABLES

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| DD 800K Floppy Disks | £0.55 |
| HD 1.44Mb Floppy Disks | £0.85 |
| ImageWriter Ribbons | £3.75 |
| JukeBox (insert up to 15 floppies automatically) | £125.00 |
| Laser Labels (floppy disk or envelope) | £12.00 |
| Toner Cartridges (laser & inkjet printers) | call |

DATA STORAGE

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|--------------------------------------|----------|
| 42 Mb external drive (Disk) | £275.00 |
| 70 Mb external drive (Disk) | £325.00 |
| 100 Mb external drive (Legend) | £395.00 |
| 200 Mb external drive (Legend) | £595.00 |
| 400 Mb external drive (Disk) | £1195.00 |
| 600 Mb external drive (Disk) | £1695.00 |
| 1000 Mb external drive (Microdot) | £2395.00 |
| Tape Backup 150 Mb (Disk) | £595.00 |
| DAT Tape Backup 1.3 Gb (Microdot) | £1695.00 |
| Optical Drive 600 Mb (CD-R) | £7495.00 |
| Optical Floppy Disk Drive 128Mb (D2) | £1195.00 |

MacLine Policy

- *Credit cards will not be charged until the order is shipped.
- *If a partial order is despatched, the balance is posted free of additional postage charges.
- *All goods are sent by Recorded First Class Mail or by a courier service. A signature is required on delivery.
- *Same day motorcycle delivery in London area is available.
- *Defective software is replaced immediately.
- *Returns will only be given on unopened packages that are returned within 7 days of receipt.
- *Prices are correct at time of going to press. E&OE.

ALL PRICES ARE EXCLUSIVE OF VAT & POSTAGE
CALL FOR OUR FREE CATALOGUE



Authorised Apple Dealer

Ordering & Payment

- *To order call Monday - Friday, 9.00 am to 7.00 pm.
- *DELIVERY: Add £3.00 on orders up to £150.00 in value. Add £6.00 on orders between £150.00 & £750.00 in value. Add £12.00 on orders above £750.00 in value.
- *Add VAT to the total price, except on books.
- *Payment is by credit card, cheque or money order.
- *Government Depts, Ed establishments and Pte companies are welcome to purchase with an official order subject to status.
- *International orders accepted with credit card only.
- Postage added at cost.

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| CD ROM Drive (Hitachi or Toshiba) | from £395.00 |
| 45 Mb Syquest Removable Drive (Micromet) | £375.00 |
| 80 Mb Syquest Removable Drive (Micromet) | £505.00 |
| Syquest Removable 45 Mb Cartridge | £55.00 |

PROGRAMMING

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| Plus 2.0 (full featured alternative to HyperCard also for PC) | £325.00 |
| ProGraph 2.0 (new programming tool) | £245.00 |
| ProType II (creates C code for Windows Menus Dialogs) | £165.00 |
| QuickBasic (a little BASIC finger from Microsoft) | £55.00 |
| SmallTalk V.0 (best version of the definitive OOPS language) | £139.00 |
| SuperCard (alternative to HyperCard has powerful language) | £210.00 |
| Think C 5.0 (PageMaker was written in this) | £135.00 |
| Think Pascal 3.0 (it probably could be rewritten in this) | £135.00 |
| TMON (debugger catches your Mac when your app crashes) | £99.00 |
| ZBasic 5.0 (heavyweight BASIC with good toolbox access) | £125.00 |

MATHS & STATS

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|--|---------|
| Mathematica II (full equation solver and graphing tool) | £590.00 |
| Mathematica SE (as above for little Macs) | £390.00 |
| Super Anova 2 (extensive Anova statistical capability) | £425.00 |
| StatView II (broad based statistical capability) | £345.00 |
| StatView SE & Graphics (as above for the little Macs) | £245.00 |
| Theorist (predecessor to the Mathematica crown good reviews) | £250.00 |

EDUCATION

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| UP TO 12 YEARS | |
| Cosmic Osmo (magical interactive audiovisual adventure) | £47.00 |
| Cosmic Osmo CD (as above only bigger on the CD) | £59.00 |
| KidsTime 2 (5 classic learning programs for the 3 to 7 year old) | £35.00 |
| KidsMath 2 (takes kids from counting to applied arithmetic) | £35.00 |
| KidPix 2 (wonderful paint prog with sounds) | £35.00 |
| The Manhole (like Cosmic Osmo only different) | £35.00 |
| The Manhole CD (as above only more off) | £59.00 |
| Math Rabbit (teaches counting and arithmetic to young ones) | £39.00 |
| NumberMaze 2 (award winning arithmetic tutor) | £39.00 |
| ReadingMaze 2 (essential reading skills) | £39.00 |
| Reader Rabbit (award winning program for teaching reading) | £39.00 |
| Talking Tiles (animated face moulds letters and vowels) | £35.00 |

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| FROM 10 YEARS UP | |
| Astrix (detailed astrological horoscopes and charts) | £39.00 |
| Canis (info on dogs and how to rear them) | £25.00 |
| Calculus 2 (intro course to the classic curriculum) | £59.00 |
| EarthQuest 2 (heralds a new type of multi-curricular learning) | £54.00 |
| Eco Adventures (environmentally aware adventure game) | £39.00 |
| EuroStack 2.0 (info gathering resource for Europe) | £55.00 |
| EuroGuide UK (add maps scans info to UK shell) | £55.00 |
| MacGlobe 2 (complete world info maps Essential) | £49.00 |
| NumberMaze Decimals & Fractions 2 (helps older kids) | £39.00 |
| Physics 2 (complete course in classic mechanics) | £50.00 |
| Voyager Astronomy 2 (view the heavens on your Mac) | £85.00 |
| Where in the World is Carmen San Diego? (geography based) | £31.00 |
| Where in Europe is Carmen San Diego? (geography based) | £31.00 |
| Where in Time is Carmen San Diego? (history based) | £31.00 |

Word Torture Language tutor:
French, Spanish, German, Russian each £35.00

Special low Education prices are available on some products, including Microsoft, Claris, Symantec and others to authorized educational establishments with Educational Purchase Orders.

CD ROM

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| Hitachi CD ROM Drive (quality drive) | £395.00 |
| Amanda Stories (stories for young kids) | £55.00 |
| Bach Brandenburg (the concertos and all about them) | £75.00 |
| Beethoven 9th (the symphony and all about it) | £65.00 |
| Beethoven String Quartet 14 (the quartet and all about it) | £45.00 |
| Mozart Magic Flute (the opera and all about it) | £45.00 |
| BLUG (huge collection of public domain and shareware) | £75.00 |
| Club Mac (400 Mb of public domain and shareware software) | £195.00 |
| CD Fun House (50 mib of games) | £40.00 |
| Countries of the World (600 mib of compressed software) | £295.00 |
| Desert Storm (the Gulf war history) | £29.00 |
| Discs Kids Stories (well known childrens books) | each £55.00 |
| Groliers Encyclopaedia (21 volumes, 9 million words) | £725.00 |
| Learn to Speak French (learn to speak French) | £275.00 |
| Merriam Webster Dictionary (the Oxford rat on Mac CD yet) | £175.00 |
| Shakespeare Complete Works (at your fingertips) | £85.00 |
| Sherlock Holmes Complete Works (pull your feet up) | £85.00 |
| SpaceShip Warlock (fabulous animated game) | £69.00 |
| The Manhole (fabulous graphic adventure for kids) | £40.00 |
| Time Table of History (the history of history) | £69.00 |
| Virtual Valeri (ever so slightly naughty graphic story) | £69.00 |
| World Fact Book (248 comprehensive country profiles) | £70.00 |

MUSIC

| | |
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| Beginners Music Toolkit 2 (interface and software) | £195.00 |
| Concertware 2 (instrument maker composer and player) | £45.00 |
| Concertware + MIDI 2 (as above for MIDI) | £125.00 |
| Practica Musica (teaches music theory and ear training) | £70.00 |
| Super Studio Session 2 (voice composer and player) | £99.00 |
| MIDI interface | £57.00 |

UTILITIES & DA's

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| FILE & DISK MANAGEMENT | |
| 011 Utilities (the pro's file & disk recovery) | £69.00 |
| Complete Undelete 2 (recover trashed documents) | £39.00 |
| Can Opener 2 (view data files without parent application) | £75.00 |
| ClickChange 2 (interface customisation) | £65.00 |
| DirRecory 2 (brilliant floppy and/or hard drive file logger) | £59.00 |
| Disk Express II 2 (speed up, unfragment hard drives) | £55.00 |
| DiskDoubler 2 (file compression to save space) | £59.00 |
| Disk Top 4 2 (powerful DA finder) | £69.00 |
| File Director 2 (essential DA's and Finder enhancement) | £75.00 |
| Gofer (search key words in multiple text files) | £54.00 |
| HandOff II 2 (no more "application is busy or missing") | £59.00 |
| Impressit (software only compression from Radius) | £125.00 |
| InitInfo 2 (book and stack about Init Clashes) | £29.00 |
| InitPicker 2.0 2 (choose startup files) | £35.00 |
| MasterFinder 2 (time saving finder utility) | £59.00 |
| MultiDisk 2 (best hard disk partitioner) | £59.00 |
| Norton Utilities (hard disk utility from the PC) | £65.00 |
| Now Utilities 2 (10 wonderful finds & DA's Essential) | £75.00 |
| On Cue (launch applications and documents from menu bar) | £39.00 |
| On Location (lightning fast file location) | £85.00 |
| Personality (allows customisation of the Mac interface) | £55.00 |
| Shortcut 2 (extra commands in open dialogue box) | £49.00 |
| SuperDisk 2 (file compression) | £59.00 |
| SUM II (essential utilities plus guard against crashes) | £89.00 |

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| SECURITY | |
| A.M.E. (very sophisticated data security) | £195.00 |
| DiskLock 2 (reassuringly priced data file security) | £105.00 |
| Empower I (file & data security) | £120.00 |
| Empower II (sophisticated file & data security) | £225.00 |
| FolderBolt 2 (lock up folders simply and effectively) | £65.00 |
| MacSafe II (file security) | £85.00 |
| FileGuard 2 (data encryption) | £145.00 |
| Nightwatch (hard disk security) | £75.00 |
| QuickLock (look out prying eyes from your data) | £32.00 |

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| BACKUP & VIRUS PROTECTION | |
| AutoSave 2 (saves your work at user determined intervals) | £29.00 |
| Backmatic 2 (for those who hate backing up) | £55.00 |
| DiskTwin (constant HD duplication security) | £95.00 |
| FastBack II 2 (very fast and compact) | £105.00 |
| NightShift (sophisticated network backup) | £525.00 |
| Redux 2 (best value backup program on the market) | £59.00 |
| Retrospect 2 (most sophisticated archival backup) | £130.00 |
| Retrospect Remote 2 (THE solution for network backup) | £225.00 |
| SAM 3.0 2 (Symantec's anti virus utility) | £79.00 |
| Virex 3.5 2 (best virus tracer & eradicator of all) | £40.00 |

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| PRODUCTIVITY ENHANCERS | |
| After Dark 2.0 2 (screen saver with many options) | £24.00 |
| More After Dark 2 (25 great new screens) | £20.00 |
| Calendar/More After Dark Bundle | £39.00 |
| At Your Service 2 (animated and vocal "assistant") | £35.00 |
| Calculator Constructor 2 2 (create DA calculators) | £69.00 |
| Calendar Maker 2 (customise calendars) | £39.00 |
| CalenDz 2 (brilliant alarm, reminder and diary system) | £92.00 |
| DynPage 2 (allows printing of anything to floppies paper) | £90.00 |
| Exposure Pro 2 (screen dump utility with paint tools) | £82.00 |
| Hyper DA II 2 (read HyperCard files from a DA) | £49.00 |
| MacList 2 (simple DA list manager) | £45.00 |
| Master Juggler 2 (100's DA's & fonts bypassing F/DA Mover) | £35.00 |
| Maxima (access more than the 8Mb limit of RAM) | £65.00 |
| Meeting Maker 5 user 2 (sophisticated network diary) | £245.00 |
| MultiClip 2.0 2 (multiple copies & pastes) | £55.00 |
| QuickKeys 2.0 2 (macro maker, time saver utility) | £99.00 |
| QuickDex II 2 (lightning fast DA database, essential) | £35.00 |
| Screenshot (low cost full featured screen dump utility) | £35.00 |
| Stepping Out 2 2 (software Big screen extender) | £59.00 |
| Smart Alarms 2 (DA reminder/diary system) | £49.00 |
| Smart Alarms multi user 2 (network diary version) | from £125.00 |
| SmartScrap & Clipper (enhanced scrapbook) | £65.00 |
| stopWatch 3.0 2 (clock & project time/activity monitoring) | £85.00 |
| Stuffit DeLuxe 2 (premium file compression program available) | £85.00 |
| Suitcase 2 2 (manages 100's DA's & fonts) | £49.00 |
| SuperGlue II (join images to disk) | £69.00 |
| SuperSpool (test imageWriter spooler) | £59.00 |
| SuperLaserSpool (Laser & ImageWriter spooler) | £65.00 |

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| Talking Mouse 2 (not a productivity enhancer) | £23.00 |
| Tempo II (the most powerful macro maker) | £99.00 |
| windoWatch 2 (logs time usage of windows) | £85.00 |

ENTERTAINMENT

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|---|--------|
| ARCADE | |
| ✓Aqua Bloopers (lit pipes together before it floods) | £29.00 |
| ✓Beyond Dark Castle (more of the classic game) | £31.00 |
| ✓Crystal Quest 2 (Britain's favourite game) | £29.00 |
| ✓Colony (loosely based on the movie "Aliens") | £24.00 |
| ✓Dark Castle (the classic Mac game still going strong) | £31.00 |
| ✓Faces (from the Tetris people) | £24.00 |
| ✓Glider (fly a glider through aerie house, best new game) | £29.00 |
| ✓Harpoon I | £39.00 |
| ✓Hostage (anti terrorist rescue mission) | £29.00 |
| ✓Wordtris (Tetris with words) | £24.00 |
| ✓Indiana Jones (wonder what this one's about?) | £29.00 |
| ✓OIDS (addictive space shoot 'em up) | £25.00 |
| ✓PipeMania (arcade game from Lucas Films) | £24.00 |
| ✓Shufflepuck (air table Joe hockey) | £26.00 |
| ✓Sky Shadow (shoot 'em up from the Crystal Quest author) | £29.00 |
| ✓Tetris (award winning colour Soviet game) | £24.00 |
| ✓Wordtris (Tetris with words) | £24.00 |
| ✓Welltris (3 Dimensional Tetris, could drive you insane) | £24.00 |

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| SIMULATIONS | |
| ✓4th and Inches (manage an American Football team) | £19.00 |
| ✓Chuck Yeager Flight Trainer (colour & different aircraft) | £25.00 |
| ✓Crazy Cars (exciting driving simulation) | £24.00 |
| ✓The Cycles (excellent motorcycle racing sim) | £27.00 |
| ✓Falcon 2 (exciting & networkable flight simulator) | £34.00 |
| ✓Ferrari Grand Prix (the best formula one simulation) | £36.00 |
| ✓Fokker Triplane (World War One flight simulator) | £29.00 |
| ✓Hunt For Red October (read the book, see the film) | £21.00 |
| ✓Jack Nicklaus Golf (highly rated simulation) | £32.00 |
| ✓Life and Death (be a doctor, perform actual operations) | £24.00 |
| ✓MacGolf (superb graphics (Plus & TMU SE only)) | £35.00 |
| ✓MacGolf Colour (highly addictive (all other Macs)) | £56.00 |
| ✓MacSki (get in shape for the slopes) | £42.00 |
| ✓Mean 18 (alternative colour Golf simulation) | £27.00 |
| ✓Microsoft Flight Simulator (long awaited new version) | £39.00 |
| ✓Mustang P51 (fighter plane simulation) | £39.00 |
| ✓Net Trek (multi player network space game) | £39.00 |
| ✓PGA Golf (far and away the best Golf game) | £32.00 |
| ✓PT 109 (graphic patrol boat simulation) | £29.00 |
| ✓Sim City (design and run your own city) | £37.00 |
| ✓Sim City Colour (design and run a colour city) | £52.00 |
| ✓Sim Earth (design and run your own planet) | £49.00 |
| ✓Space Rogue (equivalent of Elite only better) | £27.00 |
| ✓Strategic Conquest (top war simulation) | £39.00 |
| ✓Tristan (the only Pinball game for the Mac) | £49.00 |
| ✓The Duel: Test Drive (race your Porsche round California) | £32.00 |
| ✓Vette (race a Corvette through San Francisco) | £34.00 |

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| STRATEGY | |
| ✓Ancient Art of War (Sun Tzu's high quality war simulation) | £26.00 |
| ✓Ancient Art of War at Sea (seafaring version of above) | £26.00 |
| ✓Balance of Power (use political strategy to keep the peace) | £24.00 |
| ✓Balance of Power 1990 (sequel to the best seller) | £24.00 |
| ✓Balance of the Planet (save the environment and world) | £32.00 |
| ✓Darwins Dilemma (based on evolution) | £29.00 |
| ✓Guns & Butter (run your own country) | £27.00 |
| ✓Patton vs Rommel (strategy war game) | £19.00 |

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| ADVENTURES | |
| ✓Citadel (fantasy adventure) | £29.00 |
| ✓Deja Vu (hard boiled private detective adventure) | £24.00 |
| ✓Deja Vu II - Lost in Las Vegas (the sequel) | £24.00 |
| ✓Manhunter New York (excellent graphic adventure) | £35.00 |
| ✓Manhunter San Francisco (the adventure continues) | £35.00 |
| ✓Spaceward Ho! (explore and colonise a galaxy) | £49.00 |
| ✓Trust & Betrayal (invasion - who's not bullets) | £24.00 |

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| BOARD GAMES | |
| ✓Battle Chess (animated and powerful game) | £25.00 |
| ✓Bridge (from novice to advanced playing levels) | £24.00 |
| ✓Chess Champion (best Chess game now) | £25.00 |
| ✓Go Junior (award winning version of famous game) | £21.00 |
| ✓Ishido (award winning oriental Go/Mah Jongh style) | £32.00 |
| ✓Sollitaire Colour (with beautiful graphics) | £24.00 |
| ✓Shanghai (Mah Jonghish game with stunning colour) | £21.00 |
| ✓Stratego (award winning classic war game) | £27.00 |
| ✓Tesserae (colour matching mind stretcher) | £29.00 |

KEY Works on :-
 ✓ Plus & SE only → Plus, SE, II ✓ Plus, SE, II, CX and SE30
 Many games do not work on the CI, FX, Classic, SI, LC and the new Macs. Please enquire before ordering games to run on these machines.

MacChat

Norah Arnold looks at press releases and product news from AppleLink

19 New Storage Systems for Classic II & PowerBooks

MicroNet is now offering nineteen new SCSI data-storage systems for the newly released Macintosh Classic II, PowerBook 100, PowerBook 140, and Powerbook 170 computers.

Topping the line is MicroNet's 3.5-inch rewritable optical system with a 38 ms access time, and 128 MBytes of storage on a single optical cartridge. MicroNet is also offering a full range of external hard disk systems available in storage capacities of 40, 120, 200, 303, 404, 414, 510, 644, 1,000, 1,300, and 1,350 MBytes, with access times as fast as 11.5 ms, and SyQuest-based removable cartridge systems in capacities of 44 and 88 MBytes.

These removable cartridge systems have an average access time of 20 ms and are excellent for transporting data from work site to work site. MicroNet's tape product offerings include 3.5-inch and 5.25-inch streaming tape backup systems in 150, 155, and 320 MByte capacities, and a 1.3 GByte, and 5.0 GByte DAT backup system. MicroNet's Collegiate Pack Series offers a full range of compact, lightweight, transportable tape backup systems consisting of 155 MByte and 600 MByte units for the new Macintosh Classic II and PowerBook computers.

MICRONET.SLS for Data Sheets. 3.5 Inch Rewritable Optical Systems for Macintosh

MicroNet is also offering a new 128 MByte, 3.5-inch external rewritable optical system with a fast access time of 38 ms.

The model MO-128 is capable of a 4.0 MB/sec burst rate, and rotates at 3,000 rpm for increased data

transfer rates of 700 KB/sec. Up to 128 MBytes of data can be stored on a single rewritable optical cartridge. Cartridges are single-sided and look much like a "thick" floppy diskette. They are lightweight, easy to transport, and provide a much higher capacity than removable hard disk cartridges.

Cartridges can be easily transported through air express mail and their removability offers total data protection because they can be locked away overnight. The MO-128 is compatible with ANSI/ISO standards, allowing users to interchange cartridges from other vendors who conform to ISO standards.

Contact:
MicroNet Technology, Inc.
Omar G. Barraza,
Product Manager
20 Mason Street
Irvine, CA 92718
(714) 837-6033
AppleLink ID: MicroNet.TS

ACTINET Announces ARCTalk LC for Macintosh LC

ACTINET Systems, Inc., developer and originator of ARCTalk™, AppleTalk®-over-ARCNET® connectivity, announces the release of the ARCTalk LC, a high-performance ARCNET card for the Apple® Macintosh® LC.

The ARCTalk LC provides an affordable, easy-to-install ARCNET connection for Macintosh LC users. The ARCTalk LC joins the family of high performance ARCTalk cards for the Macintosh including the ARCTalk SE for Macintosh SE users, the ARCTalk NB for Macintosh NuBus™ users (II, IIx, IIcx, IIci, IIsi and IIfx) and the ARCTalk 030 for Macintosh SE/30 and IIsi users.

The release of the ARCTalk LC also coincides with Novell's release of extended support for ARCNET-based NetWare users including the latest 3.01 release of NetWare for Macintosh. SelfSet automatic node addressing With the release of the ARCTalk LC, ACTINET Systems also announces SelfSet™ automatic node addressing, included on the ARCTalk LC. Without disturbing the network, SelfSet automatically allows the ARCTalk LC to find and verify a free, unique network node address before becoming an active node on the network.

The inclusion of SelfSet simplifies set up and administration of ARCNET node addresses enhancing network reliability by preventing node conflicts on every startup. The ARCTalk LC also offers an on-card, non-volatile RAM for storage of node addresses to ease network maintenance.

Compatibility:

The ARCTalk LC offers high-performance and easy installation into the LC's 020 Processor Direct Slot.

ARCTalk software is AppleTalk Phase 2 compatible, AppleTalk Internet Router compatible, System 7.0 compatible and 32-bit clean. With full AppleTalk compatibility, ARCTalk users are assured full interoperability with other AppleTalk networks including EtherTalk™ and TokenTalk™ installations allowing the full sharing of files, data and applications across internets. And ARCTalk software has been Novell-certified compatible with NetWare for Macintosh. Availability and pricing ACTINET Systems will begin shipping the ARCTalk LC on November 15, 1991. The ARCTalk LC will be available in both coaxial and twisted-pair configurations. Suggested retail pricing (United States and Canada)

| | |
|-------------------------|-----------|
| ARCTalk LC-Coax | Order No. |
| 900-1020 \$249 | |
| ARCTalk LC-Twisted-pair | Order No. |
| 900-1025 \$249 | |

The ARCTalk LC also features a 3 year Limited Warranty on parts and labour. For more information, customers and dealers should contact ACTINET Systems.

ACTINET Systems, Inc., founded in 1988, develops ARCTalk system software and hardware products that manage and control the sharing

of data across ARCNET computing networks operating independently and as integral segments of large, multi-vendor, multi-media internetworks.

Contact: Keith Yarak
ACTINET Systems, Inc.
360 Cowper Street
Suite 11
Palo Alto, CA 94301
415 326-1321
Fax: 415 321-2160
AppleLink: D2388

CANDELA ships four new colour transform products

Candela, Ltd., a producer of colour solution software for the Macintosh using custom colour transformations, announced that it has shipped its first versions of four new products. The Candela434™ is a "round trip" 4 channel to 3 channel to 4 channel CMYK to RGB to CMYK colour conversion program for those who prefer to edit in RGB space high-end CMYK separations. 4-SEPS™ is a powerful RGB to CMYK colour separation package giving full independent control over GCR, UCR, dot gain and black point. Two of the new products are calibration software for colour film systems. Print-Cal™ uses a tight iterative loop approach to calibrating colour output devices while Sys-Cal™ does an end-to-end calibration between a colour film scanner and a colour film recorder.

Contact:
Candela, Ltd.
John Grimaldi
9206 12th Avenue South
Minneapolis MN 55425
612-885-9077

Competitive Upgrade for MacProject Owners

Monitor Systems is offering owners of MacProject II an opportunity to upgrade to Task Monitor 4.2 for only \$99. This competitive upgrade offer applies to any version of MacProject II and is valid until December 31, 1991. Task Monitor is receiving positive reviews from Project Managers. Users can interact with the Gantt by using the mouse to "draw" durations, click and drag dependencies between activities, fill the progress line, click and drag constraint start and finish dates, and more.

Task Monitor has a time-scaled PERT chart that routes the

dependencies in an orthogonal manner and each connection is clearly identified as to its relationship type and lag. Task Monitor can import data from Tab Delimited Files making it easy to transfer data from MacProject. Our Macintosh product and our DOS products are compatible and provide True Distributed Project Management.

Task Monitor can also exchange data with mainframe-based project management programs such as Artemis, Project/2 and Vision. To qualify for the competitive upgrade, proof of purchase of MacProject II is required. Without upgrade, Task Monitor is now priced at \$349, down from \$695.

Contact:
Monitor Systems, Inc.
Al Ruiz 960
N. San Antonio Rd.
Ste. 210 Los Altos,
CA 94022
(415) 949-1688 D3205

Coursework Using Co.'s Products Listed in Directory

National Instruments announces its new National Instruments in Academia directory, a listing of educators who have integrated personal computer-based data acquisition and analysis into their curricula and research projects. The free directory is intended to stimulate interaction between universities and high schools with similar data acquisition and analysis applications.

The directory organizes the information into six sections, Biology and Physiology, Chemistry and Chemical Engineering, Computer Science and Electrical Engineering, Industrial and Mechanical Engineering, Physics, and Psychology, with each section giving course descriptions for that particular field of study.

National Instruments in Academia is useful to educators interested in bringing the latest technology to their classrooms and laboratories by using National Instruments products. National Instruments Corporation, headquartered in Austin, Texas for 15 years, manufactures software and hardware products that scientists and engineers use to build integrated PC-based instrumentation systems. Data can be acquired from any combination of

plug-in data acquisition boards, and GPIB, RS-232, and VXibus instruments.

Besides data acquisition, the LabVIEW® and LabWindows® application software packages offer intuitive graphical user interfaces for control and data presentation and extensive data analysis libraries. The company has over 500 employees and offices worldwide.

For more information or to receive a free National Instruments in Academia directory, please contact National Instruments Corporation, 6504 Bridge Point Parkway, Austin, TX 78730-5039, (512) 794-0100. Fax: (512) 794-8411.

Contact:
Liz Stice
National Instruments Corporation
6504 Bridge Point Parkway
Austin, TX, 78730-5039
(512) 794-0100

Danny Goodman's Connections™ All-New PIM Ships

Even in the information rich environment created by the personal computer industry, few people have the phone number or note they want at their fingertips. Everyone wishes they were more organized but the process seems more trouble than it's worth. An all-new personal information manager called Connections™ could change that for Macintosh™ users now it has begun to ship.

Danny Goodman, best-selling author of numerous books for Macintosh users, started developing personal information management software (or PIMs) in 1986. "For years I've been watching how people work and listening to what users want in this category," said Goodman. "I designed Connections with today's top technology, while looking ahead to tomorrow. The result is a solution that is simple, deep and expandable."

In a streamlined but powerful format, Connections integrates the three functions that people really need and use:

- 1) personal calendar (including a group calendar) and "to-do" lists;
- 2) customizable telephone directory; and
- 3) efficient note taking.

Each of these modules is

represented by an icon on the convenient, colorful floating menu. The multi window environment allows fast navigation. The program is so easily customizable that even novices can create a personal work environment as comfortable as their running shoes.

Connections' shared calendar is System 7 savvy—providing instant notification of changes in each user's calendar.

Special features allow the mobile executive to keep the calendar on a portable Macintosh reconciled with the server calendar by a simple modem file transfer. Also, upon return to the office, the traveler's calendar is automatically reconciled with the office calendar.

Additional low cost modules, such as expense reporting, integrated electronic mail and IBM PROFS access, are already in development. All HyperTalk scripts are open so that experienced scripters and third party developers can create further add-ons to the core program. HyperCard v. 2.1 is included.

Extensive import and export facilities move FileMaker™, Focal Point II™ and other database or HyperCard™ files to Connections.

Danny Goodman's Connections has a suggested retail price of \$199, and is available now through Heizer Software at an introductory price of \$149.

Contact:
Concentrix Technology, Inc.
Paul Zuzelo
1875 South Grant St.,
Suite 760
San Mateo,
CA 94402
415/358-8600
AppleLink: CONCENTRIX

Dayna Announces Small SCSI Ethernet Adaptor for Apple Powerbooks

Dayna Communications, Inc. today announced DaynaPORT SCSI/Link™, a small external SCSI Ethernet adapter targeted primarily at owners of the new Macintosh® PowerBook™ series. DaynaPORT SCSI/Link is also an ideal solution for the Classic® series and other Macintosh models that do not have an internal slot for an Ethernet card.

Due to ship in January 1992, DaynaPORT SCSI/Link will retail

at \$399. DaynaPORT Ethernet adapters are available to connect all models of Macintosh computers to an Ethernet network using any type of cable system. A variety of protocols are supported, including EtherTalk, TCP/IP, DECnet®, and OSI. DaynaPORT adapters work with all popular network operating systems, including AppleShare®, NetWare®, TOPS®, and A/UX. All products feature System 7 support, an easy Installer, and diagnostic software. DaynaPORT SCSI/Link is the latest addition to the product line.

Based on the same leading edge Ethernet technology as the rest of Dayna's Ethernet adapters, DaynaPORT SCSI/Link is an inexpensive method for connecting the new Macintosh PowerBook computers, and any other slotless Macintosh models, to an Ethernet network. Measuring just 3 inches by 5.75 inches and only 1.75 inches high, its compact, portable design makes DaynaPORT SCSI/Link ideal for Macintosh computers that move from one Ethernet network to another. The product has two 25-pin SCSI connectors, and is internally terminated via an on/off switch. A small 12 volt power supply comes with the product. SCSI cables are available separately with either 25-pin or 30-pin connectors, to support both PowerBook and desktop Macintosh computers.

"Macintosh Ethernet networks are growing at a rapid pace. Portable Macintosh computers such as the new PowerBooks need a portable Ethernet connector so they can hook up to a LAN any time, at the office or out on the road," said Boyd T. Jones, president and CEO of Dayna. "DaynaPORT SCSI/Link combines SCSI speed and compact size to create the industry's smallest high-speed Ethernet network connector."

Specifically designed for slotless Macintosh models such as the Portable and PowerBook series, DaynaPORT SCSI/Link provides them with a fast, easy Ethernet connection. It is also an excellent choice for desktop computers such as the Macintosh Classic, Classic II® and Plus that do not have an available card slot, or the Macintosh LC and IIsi whose one slot is already taken.

Pricing and availability
Two models of the product are

available. DaynaPORT SCSI/Link has a BNC connector for thin Ethernet. DaynaPORT SCSI/Link-T has an RJ45 connector for 10BASE-T twisted-pair wiring systems.

Available in January 1992, DaynaPORT SCSI/Link and SCSI/Link-T have a suggested U.S. retail price of \$399. Dayna backs the products with a lifetime warranty and unlimited free telephone support for all registered owners. DaynaPORT products are distributed domestically by Ingram Micro, Merisel/Macamerica, Tech Data and other distributors, and are available worldwide through a network of international distributors in Europe, Asia, Australia and Canada. Dayna Communications, Inc. is a privately held company that specializes in the manufacture of networking and connectivity products for microcomputer systems.

Contact:
Dayna Communications, Inc.
David Pascoe
50 South Main,
Fifth Floor Salt Lake City,
UT, 84144
801-531-0600
AppleLink: DAYNA

MacLuggage Cases for Mac Notebook Computers

I/O Design, Inc. expands their product line to address the demand for carrying cases for transportable computers.


Leading the way is the "Ultimate Macintosh Notebook" carrying case. Its upper compartment holds the notebook computer, several floppies, pens and business cards. The lower compartment can accommodate the external floppy drive and AC adapter, or Kodak's Diconix printer.

Other features are an external pocket for notes, a padded handle and detachable shoulder strap.

The "Ultimate Macintosh Notebook" retails for \$129.95.

The companion case is the "Ultimate Macintosh Notebook SL" carrying case for \$119.95.

The "Ultimate Macintosh IIsi/LC" carrying case retails for \$119.95. Following is the "Ultimate StyleWriter" carrying case retailing for \$89.95.

Downloaded from AppleLink 

Response from Symantec (UK)

"Following your September article in Apple Slices titled 'Unfair Treatment by Symantec' I write to clarify what the upgrade options are for THINK C in the UK.

Registered users of THINK C can upgrade to version 5.0 which is Apple System 7 compatible for £49.00 or alternatively there is a "Developers Upgrade" which is priced at £69.00 and comprises of the new version of THINK C AND THINK REFERENCE. Of course recent purchasers from August can upgrade FREE of charge to the new version.

THINK Reference is an highly useful tool for professionals and novices alike. It provides instant access to the critical information needed to program the Macintosh such as Detailed routine descriptions, declarations and notes, Tech Notes, example code and top tips from Symantec, Sections on Fonts, resource types and other Macintosh topics. Informative graphics to illustrate key concepts and much more. Think Reference normally retails at £60.00."

Symantec (UK) also advised, verbally, that registered users of THINK Pascal can upgrade to version 4 which is Apple System 7 compatible for £49.00. Recent purchasers from 28th October 1991 can upgrade FREE of charge to the new version.

STOLEN COMPUTER EQUIPMENT

REWARD FOR RECOVERY OR INFORMATION

THE FOLLOWING ITEMS WERE STOLEN FROM THE OLYMPIA EXHIBITION HALL, 2nd NOVEMBER 1991. PLEASE KEEP AN ALERT FOR THEM

Apple Macintosh Computer IICX 4/40

Apple. 13" Colour monitor

Hewlett Packard A3 colour printer:

Paintwriter XL, Serial No. 02132

Large about 30" x 24" x 12" high

Hewlett Packard A4 colour printer:

DeskWriter C, Serial No. 21515

Compact, 16" x 14" x 10"

Charger & battery for mobile phone

Various cables and 3.5" disks

Computer trolley in grey metal frame with white melamine surfaces

Black shoulder bag, various files and records

TOTAL VALUE APPROX. £6500

IF YOU HAVE ANY INFORMATION WHICH MAY HELP RECOVERY, PLEASE CONTACT RICHARD BIRD ON 081 741 6212 OR HAMMERSMITH POLICE STATION CRIME DESK ON 081 741 6212.

A SUBSTANTIAL REWARD WILL BE GIVEN "NO QUESTIONS ASKED" FOR SAFE RETURN.



Chameleon Systems

Telephone: 0775 85481

We would like to take this opportunity to wish all our customers past, present, and future a very Merry Christmas and a Happy New Year!!

Chameleon Systems for Apple equipment both new and second user. We buy and sell anything Apple.

Computers, peripherals, accessories, books, DTP, consultancy, installation (country-wide), training, bespoke software, repairs, telephone support, upgrades, everything you need just one telephone call away.

Macintosh IIfx second user system: 8Mb RAM, 80Mb hard disk, Apple 13" colour monitor with 24bit accelerated graphics card, standard keyboard, GCC BLP IIS postscript laser (1300 copies), all packing and manuals. ONLY £4999!!

Chameleon Systems, Cuckoo Lane, Pinchbeck, SPALDING, Lincs. PE11 3XT

Wallpaper™

SPECIAL OFFER Demo Disk No.463 £2 only

"Wallpaper, the monitor makeover, is interior decoration for your Mac's desktop. By letting you choose from hundreds of desktop patterns, Wallpaper gives you fine art where you can actually enjoy it. If you want, design your own patterns, either in Wallpaper or your favourite graphics program. Wallpaper can even randomly change patterns for you."

Thought I Could will launch Wallpaper at San Francisco MacWorld in January. **The Demo disk** allows you to try the software features, without saving your artwork. A number of patterns are included on the disk, and the random feature will change patterns automatically.

Order the Demo Disk from Shop2000, at the special price of £2.00 (incl. Postage and VAT).

Wallpaper runs only on the SE/30, the LC, the Mac II series, the Quadra 700 and 900, and the PowerBook 140 and 170 series. Wallpaper requires System 6.0.5 and above or System 7.0 and above.



Interactive Learning T91

By David Durling

Interactive Learning T91

Held at Heriot-Watt University, Edinburgh, 13-15 September 1991. [David Durling attended this year's Interactive Learning conference, and discusses the event.]

The Interactive Learning Conference is fairly new: this year's event is the third, and again utilised the splendid resources of the Riccarton campus on the outskirts of Edinburgh. As a bonus, this year it did not rain, so use could be made of the extensive grounds. This is neither an academic nor a wholly commercial event, both camps being present in roughly equal numbers.

What is interactive learning?

Well, multimedia if used for educational purposes ranks as interactive learning, and the term can encompass many forms of human-computer interaction including the usual graphics, animation, sound and text, but the emphasis is firmly on education and training, not necessarily entertainment. Multimedia in this context also takes in the just announced CD-TV being pushed by Commodore, laser disks, video, the spoken word, hypertext, the ubiquitous CD-ROM, and even barcoded laser disk technology. So what was notable this year? Perhaps the Apple Mac dominance was slightly reduced this year, with a number of PC based systems being shown. Indeed, Ron Palmich, Director for international multimedia at IBM gave a keynote presentation, although I am still left with the impression that, with one or two exceptions such as Commodore, the non-Apple vendors have a long way to go to achieve the simple play and

which is (just) possible with the Mac. The differing memory management, display and system requirements and other incompatibilities still look tedious. By comparison, Apple's demonstration of 'QuickTime' is a very significant breakthrough, allowing video images running in software to be delivered without any special hardware, but it is the fact that it is usable on any Macintosh which really outshines the opposition.

A number of speakers mentioned the difficulty of copyright issues which plague the production of multimedia packages. While it is possible to trace music and pay the appropriate dues, the original source of much graphic or text material is often impossible to track down. Where this material is contributed by school pupils as part of a group project, crediting the sources becomes impossible. With the recent introduction of more stringent copyright laws in the UK, this subject looks set to become a hot potato, and I cannot see that there is a ready solution within the existing laws.

Among the items that caught my eye were:

- the French tutorial with the cartoon character Asterix, unfortunately demonstrated by a stand-in who knew nothing about computers, and little more about the package. Also, it was a part completed prototype intended for French speakers learning English...

- an interactive music tutor which seemed to work well musically, but which was marred by the most banal graphics.

- a bar coded laser disk package, which facilitates the rapid making of conventional DTP'd training

manuals without pictures: instead, a bar code is printed on the page, and this operates a laser disk via a light pen, providing top quality video/stills. No computer is involved, it uses a colour TV if necessary, and it's cheap....

- the quotation from the Lao Tzu, 4th century BC. If you show me I will see it, if you tell me I will listen, if you let me experience it I will learn. Very apt, but when I looked it up in the good book, it wasn't there...

- the thought that in the last seven years the stored information on civilisation has doubled, coupled with the thought that methods of cataloguing will become important. One interesting notion accruing from this is the idea of software 'agents' which will be programmed with our personal interests and will filter information pouring into our computers, thereby presenting us with only the stuff we want to see. Wish I had one of those on my email systems....

- the US university which has been using computer aided learning for the past six years: undergraduates in chemistry use machine simulations of experiments. The computer keeps track of student progress, when they get beyond a certain level they are allowed into the lab. In the meantime, they waste no materials, cannot blow themselves up, can work at their own pace, and require no lab equipment. Some of you may remember the test which British Rail conducted a few years ago to ascertain the impact resistance of the flasks used for carrying atomic waste on our railways: this involved a train travelling at high speed colliding with another train which had been derailed. A video was made showing the moment of impact from various views, on the ground, inside the cab, and in the air.

This video was shown as part of an interactive physics tutorial for schools, and the video could be stopped, run frame by frame, run backwards etc. As I watched fascinated by this display of raw kinetic energy as the trains were torn apart, the speaker suggested to us that this direct image would stay with us in a way that words and diagrams cannot achieve. It has.

David Durling 26th October 1991. 🍏

The Powerbooks

More information from Apple Computer on their new Powerbooks.

Apple Computer, Inc. have announced a new line of highly anticipated notebook-sized systems called the Apple Macintosh PowerBook computers. Equipped with all the traditional Macintosh features, each of these three new computers is designed to be convenient enough to fit in a briefcase, powerful enough for the most demanding computing tasks, and affordable enough for a wide range of users.

The announcement took place on the opening day of COMDEX, the world's largest personal computer exposition. The week-long show draws 100,000 attendees from all over the world with diverse computing interests. In keeping with its goal to reach more people with Macintosh, Apple introduced the PowerBook computers there to attract new customers who haven't historically purchased Macintosh. Apple believes that the choice of three different notebook-sized models combining traditional Macintosh simplicity with powerful capabilities will address the price and performance needs of a wide range of customers in large and small business, government, education, and the home.

"Our goal is to lead the industry in notebook computing," said John Sculley, Apple's chairman and chief executive officer. "We think the Macintosh PowerBooks will appeal not only to dedicated Mac customers, but also to traditional PC users, and even people who have never before considered using a computer. Our new notebooks will open doors for Apple by virtue of their superb combination of simplicity and convenience."

The Macintosh PowerBook line of computers includes the PowerBook 100, PowerBook 140, and

PowerBook 170. All share several common characteristics. Most notable are the ergonomic advantages, which include an integrated trackball and palm rest, full-size keyboard, easy-to-read full page-width screen, and tilt adjustments. Internally, each PowerBook includes the full spectrum of standard Macintosh features: System 7 operating system, enhanced networking capability with AppleTalk Remote Access software, a SCSI port for connecting a range of Macintosh peripherals, and a sound-output port and speaker. Each PowerBook ships with at least 2MB (megabytes) of memory (expandable to 8MB) and a 20MB or 40MB internal hard disk.

"Apple started with a completely different design premise than other notebook computer makers," said Randy Battat, vice president of portable computing. "While most companies merely shrink desktop systems into a notebook size, our approach was to first consider how people using notebook computers work differently. So we built communications right into every box. We placed a premium on smooth desktop and network integration. And, most importantly, we made user comfort and convenience the centre of the design effort."

PowerBook 100

The Apple Macintosh PowerBook 100 is Apple's most affordable PowerBook computer. Based on the Motorola 16 MHz 68000 microprocessor and weighing only 5.1 pounds, the PowerBook 100 is the smallest and lightest of Apple's new line (8.5" x 11" x 1.8"). It comes standard with 2MB of RAM and a 20MB internal hard drive. The PowerBook 100 connects to a new

drive from Apple, allowing users the flexibility to travel with or without its additional weight.

Through the use of a special adapter, the PowerBook 100 can connect to a desktop computer via a standard SCSI (small computer systems interface) port to transfer information easily. It will also connect to MS-DOS-based systems via a built-in serial port.

The PowerBook 100 will support external monochrome displays through third-party video adapters. It is powered by a sealed lead-acid battery that provides 2 to 4 hours of usage before recharging is necessary. Its base suggested retail price in the United States is \$2,299. (U.K. — £1,375)

PowerBook 140

The Apple Macintosh PowerBook 140 is the midrange member of the PowerBook line, offering performance equivalent to that of the popular Macintosh IIcx or 2.5 times the Macintosh Classic. Based on a Motorola 16 MHz 68030 microprocessor, the PowerBook 140 weighs 6.8 pounds and offers greater performance and more storage options than the PowerBook 100.

It measures 9.3" x 11.25" x 2.25" and comes standard with an internal 1.4MB SuperDrive that uses high-density floppy disks and reads, writes, and formats Macintosh, MS-DOS, OS/2, and ProDOS disks. It includes 2MB or 4MB of RAM and is configured with a 20MB or 40MB internal hard disk. Its base suggested retail price in the United States is \$2,899. (U.K. — £1,795)

Both the PowerBook 100 and PowerBook 140 feature full-page width backlit Supertwist liquid crystal displays.

PowerBook 170

The Apple Macintosh PowerBook 170 is the highest performance member of the PowerBook line. It features a 25 MHz 68030 microprocessor and 68882 math coprocessor combination that offers users computing power equivalent to that of the high-performance Macintosh IIci.

It also features a state-of-the-art backlit active-matrix liquid crystal display that provides superior screen performance in all lighting conditions. A built-in 2,400-baud

modem (with fax send at 9,600 baud) is included for sending or receiving mail messages, accessing information on other computers, and printing remotely to facsimile machines.

The PowerBook 170 comes standard with a 1.4MB SuperDrive, 4MB of RAM and a 40MB internal hard disk. As with the PowerBook 140, it weighs just 6.8 pounds and measures 9.3" x 11.25" x 2.25". Its suggested retail price in the United States is \$4,599. (U.K. — £2,975)

Both the PowerBook 140 and 170 will support external monochrome and colour displays and projection devices via third-party video adapters. In addition, the 140 and 170 ship with a microphone and sound input capability, allowing users to record voice and sound to documents. Both are powered by a NiCad battery that provides 2 to 3 hours of usage before recharging is necessary.

Ergonomics

Each PowerBook computer is designed to be portable as well as comfortable to use. An integrated dual button trackball pointing device is centered below the keyboard to ease operation of the computer in any mobile situation. The standard keyboard layout features "quiet touch" keys with 3mm of travel that is familiar and comfortable to use. Full-page width displays feature high-quality screen resolution that make viewing the display easy on the eyes in a variety of lighting conditions. The screen tilts to any angle allowing the user to adjust it for better viewing or to reduce glare. The PowerBook computers also incorporate a simple tilt mechanism that lets users adjust the unit to the most comfortable working angle.

The PowerBook computers are the first portables to fully integrate palmrests into the product design.

This feature, which extends the surface area around the keyboard, lets the user find the most comfortable position for typing on a desktop and makes it possible for the wrist to be kept in a neutral position, which is recommended by ergonomic medical specialists. (Scientific studies have shown that extreme flexion and extension are risk factors in the development of repetitive stress injuries.) In addition, palmrests facilitate

"micro" pauses during periods of typing that reduce stress on the user's upper extremities (hands, arms, shoulders and neck). For laptop use, the PowerBook fits comfortably on the lap and still provides adequate palm support and trackball access.

Power Management

All of the PowerBooks feature intelligent power management that extends battery life and safeguards data in low power conditions by reducing power consumption. An automatic or user selected "sleep" feature prompts the hard disk and system to hibernate and consume less power when not in use. Since power is not completely shut off and RAM is still active, the computer wakes up quickly with the touch of a key. A "system rest" feature, which is transparent to the user, automatically reduces the power consumed by the microprocessor when not in use. A small application program (called a desk accessory) graphically depicts the battery level for the user, and special dialog boxes automatically alert the user when the battery is running low and needs to be replaced or recharged.

System 7 Capabilities

There are several powerful capabilities that System 7 lends to the PowerBooks such as Balloon Help and File Sharing. In applications that support it, Balloon Help prompts users with helpful reminders of the function of items in the menu display. This is especially useful to PowerBook users who don't want to carry along heavy software manuals. File Sharing is another System 7 capability that gives PowerBook users an edge. This feature allows users to conveniently exchange data between computers via the built-in LocalTalk connector. By simply plugging the PowerBook into the desktop computer via standard cables, the File Sharing software allows users to see the entire contents of the PowerBook on the desktop machine or vice versa. It is a quick and easy way to transfer or share files.

AppleTalk Remote Access

It's especially important for mobile computer users to be able to remotely access a home computer

or office network. To achieve this, Apple is bundling AppleTalk Remote Access software with every PowerBook. AppleTalk Remote Access is a new Apple product that allows users to connect to an AppleTalk network over a standard telephone line using a data modem. When connected, users gain access to all of the home or office-based network services as if they were locally connected. For example, users can dial in to a remote computer and retrieve a forgotten file, print a document for a colleague back at the office, or access an online calendar.

PowerBook Accessories

Apple is offering a complete line of accessories to complement the Macintosh PowerBooks from memory expansion cards to SCSI cables to extra batteries and rechargers.

Third-party developers will also be announcing several key products to enhance the capabilities of the PowerBooks.

Macintosh PowerBook 100 Technical Specifications

Microprocessor: 68HC000, running at 16 MHz

Memory: Comes with 2MB pseudostatic RAM on the logic board, and one memory expansion slot. Expand to 8MB of RAM by installing a RAM expansion card in the expansion slot.

Disk storage: One internal 20MB hard disk

External 1.4MB floppy disk drive; reads, writes, and formats Macintosh, MS-DOS, OS/2 and ProDOS disks

Display: 9 in. (229 mm) diagonal Backlit Supertwist liquid crystal display

640 by 400 pixels

Battery: Sealed lead-acid, 2.3 ampere-hours, provides 2 to 4 hours of usage before recharging is necessary

Recharge time: 3 hours

Keyboard: Built-in keyboard with standard Macintosh layout Two-level tilt adjustment

Trackball: 25 mm-diameter, dual button trackball

Clock/calendar: CMOS custom chip with long-life lithium battery

Interfaces: One Apple Desktop Bus (ADB) port for keyboard, mouse, and other devices using a two-speed, synchronous serial bus

One RS-422 serial port for LocalTalk networking, printers, modems, and other devices

One HDI-30 SCSI port for hard disks, scanners, CD-ROM drives, and other devices

One sound output port for external audio amplifier

One HDI-20 floppy disk drive port for the external 1.4MB floppy disk drive

Modem: Optional internal 2400-baud modem with fax at 9600 baud; includes fax send software

Error correction and compression: MNP 4, 5 and V.42, V.42bis

Sound generator: Apple Sound Chip provides 8-bit sound capable of driving headphones or other stereo equipment through the sound port.

Disability access: CloseView, Easy Access, and visible beep included with system software. These built-in solutions and third-party options provide alternative input and output devices for people with disability.

ADB power requirements: Maximum current draw for all ADB devices is 50 milliamperes (a maximum of three ADB devices is recommended)

Electrical requirements:

Line voltage: 110 to 220 volts

Frequency: 50 to 60 Hz

Size and weight:

Height 1.8 in. (4.6 cm)

Width 11 in. (28.0 cm)

Depth 8.5 in. (22.0 cm)

Weight 5.1 lb. (2.3 kg)

Macintosh PowerBook 140 Technical Specifications

Microprocessor: 68030, running at 16 MHz

Memory: Comes with 2MB or 4MB pseudostatic RAM on the logic board and one memory expansion slot. Expand to 8MB of RAM by installing a RAM expansion card in the expansion slot.

Disk Storage: One built-in 1.4MB drive that uses high-density floppy disks and reads, writes and formats Macintosh, MS-DOS, OS/2, and ProDOS disks

One internal 20MB or 40MB hard disk

Display: 10 in. (254 mm) diagonal Backlit Supertwist liquid crystal display
640 by 400 pixels

Battery: NiCad, 2.5 ampere-hours, provides 2 to 3 hours of usage before recharging is necessary

Recharge time: 3 hours

Keyboard: Built-in keyboard with standard Macintosh layout

Two-level tilt adjustment

Trackball: 30 mm-diameter, dual button trackball

Clock/calendar: CMOS custom chip with long-life lithium battery

Interfaces: One Apple Desktop Bus (ADB) port for keyboard, mouse, and other devices using a low-speed, synchronous serial bus

Two RS-422 serial ports for LocalTalk networking, printers, modems, and other devices

One HDI-30 SCSI port for hard disks, scanners, CD-ROM drives, and other devices

One sound output port for external audio amplifier

One sound-in port

Modem:

Optional internal 2400-baud modem with fax send at 9600 baud; includes fax send software

Error correction and compression: MNP 4, 5 and V.42, V.42bis

Sound generator: Apple Sound Chip provides 8-bit sound, capable of driving stereo headphones or other stereo equipment through the sound port.

Sound input: 8-bit sound, sampled at 11 or 22 kHz

Disability access: CloseView, Easy Access, and visible beep included with system software. These built-in solutions and third-party options provide alternative input and output devices for people with disability.

ADB power requirements: Maximum current draw for all ADB devices is 50 milliamperes (a maximum of three ADB devices is recommended)

Size and weight:

Height 2.25 in. (5.7 cm)

Width 11.25 in. (28.6 cm)

Depth 9.3 in. (23.6 cm)

Weight 6.8 lb (3.03 kg)

Macintosh PowerBook 170 Technical Specifications

Microprocessor: 68030, running at 25 MHz

68882 math coprocessor, running at 25 MHz

Memory: Comes with 4MB pseudostatic RAM, 2 on the logic board and 2 on a RAM expansion card that fits into a card slot.

Expand to 8MB of RAM by replacing the 2MB expansion card with either a 4MB or 6MB RAM expansion card.

Disk storage: One built-in 1.4MB drive that uses high-density floppy disks and reads, writes and formats Macintosh, MS-DOS, OS/2, and ProDOS disks

One internal 40MB hard disk

Display: 10 in. (254 mm) diagonal Backlit active-matrix liquid crystal display

640 by 400 pixels

Battery: NiCad, 2.5 ampere-hours, provides 2 to 3 hours of usage before recharging is necessary

Recharge time: 3 hours

Keyboard: Built-in keyboard with standard Macintosh layout

Two-level tilt adjustment

Trackball: 30 mm diameter, dual button trackball

Clock/calendar: CMOS custom chip with long-life lithium battery

Interfaces: One Apple Desktop Bus (ADB) port for keyboard, mouse, and other devices using a low-speed, synchronous serial bus

Two RS-422 serial ports for LocalTalk networking, printers, modems, and other devices

One HDI-30 SCSI port for hard disks, scanners, CD-ROM drives, and other devices

One sound output port for external audio amplifier

One sound-in port

Modem: Internal 2400-baud modem with fax send at 9600 baud; includes fax send software

Error correction and compression: MNP 4.5 and V.42, V.42bis

Sound generator: Apple Sound Chip provides 8-bit sound capable of driving stereo headphones or other stereo equipment through the sound port.

Sound input: 8-bit sound, sampled at 11 or 22 kHz

Disability access: CloseView, Easy Access, and visible beep included with system software. These built-in solutions and third-party options provide alternative input and output devices for people with disability.

ADB power requirements:


same as 140

Size and weight: same as 140

Availability

All of the Apple Macintosh PowerBooks and most accessories will be available immediately through authorized Apple resellers worldwide.

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Mac Classic II

More information from Apple about the new Macintosh Classic II.

Macintosh Classic II

Based on the fastest-selling Macintosh® model ever, the Apple® Macintosh Classic® II personal computer extends the capabilities of the Macintosh Classic—so you get all of the advantages associated with Macintosh computers in a higher performance, affordable package.

Applications run more than twice as fast on the Classic II as they do on the original Classic. You can work with several applications at the same time, and continue working while the computer does other tasks.

The Macintosh Classic II offers many built-in capabilities. You can send electronic mail and share devices like printers with built-in AppleTalk net-working. Plug peripherals (such as CD-ROM drives, scanners, and modems) into the built-in ports. The microphone allows you to add voice notes to documents and mail messages. Balloon Help and TrueType™ fonts come standard with the Classic II.

Macintosh Classic II Technical Specifications

Microprocessor

MC68030, 32-bit architecture, 16 MHz clock speed

Memory

The Classic II 2/40 comes with 2MB of RAM on the logic board and 2 memory expansion slots for SIMMs (Single In-line Memory Modules).

The Classic II 4/80 comes with 2MB of RAM on the logic board and two 1MB SIMMs in the expansion slots.

Expand to 10MB of RAM by installing SIMMs in the available slots (dealer installation required).

512K of ROM

Disk drives

Built-in Apple SuperDrive 1.4MB floppy disk drive
Internal 40MB or 80MB Apple SCSI hard disk drive

Video display

Built-in 9-in. diagonal, high-resolution (512 by 342 pixels) bitmapped monochrome display

Interfaces

One Apple Desktop Bus (ADB) port, supporting a keyboard, mouse, and other devices daisy-chained through a low-speed synchronous serial bus

Two serial (RS-232/RS-422) ports, 230 kilobits per second maximum (up to 0.920 megabits per second if clocked externally)

SCSI interface, using a 50-pin internal connector and a DB-25 connector for the first external device; all subsequent SCSI-based peripherals use standard SCSI-to-SCSI interface cables.

3.5-inch external floppy disk drive (800K or 1.4MB) interface

Sound port for external audio amplifier or headphones

Sound-in port for monaural sound input

Internal connector for optional math coprocessor

Keyboard

ADB keyboard with numeric keypad
Two-level tilt adjustment

Mouse

Apple Desktop Bus Mouse; mechanical tracking; optical shaft or contact encoding; 90 to 110 pulses per in. (3.51 to 4.29 pulses per mm) of travel

Microphone

Electret, omnidirectional; output voltage is 4 millivolts, peak to peak, at normal volume.

Sound generator

Monophonic 8-bit digital-analog conversion using 22-kilohertz sample rate, capable of driving stereo headphones or other stereo equipment through the sound jack

Clock/calendar

Custom chip with long-life lithium battery

Fan

10 cu. ft./min. axial
Positive pressure cooling

Disability access

CloseView, Easy Access, and visible beep included with system software. These features and third-party options provide alternative input and output tools for people with disabilities.

Machine Information

Macintosh Classic II 2/40

Macintosh Classic II personal computer with 2 megabytes of RAM, built-in 1.4-megabyte Apple SuperDrive, and internal 40-megabyte hard disk; keyboard, mouse, and microphone; complete setup, learning, and reference documentation; system software, limited warranty statement.

Macintosh Classic II 4/80

Macintosh Classic II personal computer with 4 megabytes of RAM and internal 80-megabyte hard disk; all other features that are included with the Macintosh Classic II 2/240.

Macintosh Classic II Upgrade*

The upgrade allows Macintosh Classic owners to upgrade to a Macintosh Classic II and includes 2 megabytes of RAM, system software, and microphone; requires a hard disk (not included).

*Dealer installation required.

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LaserWriter IIg & IIf

More information from Apple about the new LaserWriters.

Apple Moves the Stake in Laser Print Quality

Apple Computer, Inc. have announced two new LaserWriter printers that allow users to create more impactful documents than ever before with a desktop laser printer. Called the LaserWriter IIg and LaserWriter IIf, the printers feature advanced grayscale and text printing capabilities, up to twice the performance of the LaserWriter IINTX, and a range of connectivity options for Macintosh and other computer platforms. These are also Apple's first laser printers to incorporate Adobe's Postscript Level 2 page description language.

"We believe the new LaserWriter IIg and IIf represent the most significant breakthrough in the quality of desktop laser printing since the introduction of the original LaserWriter," said John Moon, Apple's vice president of imaging products. "The advancements in these new laser printers will open the way for more users to incorporate high-quality images and photographs into everyday documents. We've once again set a higher standard for the industry and raised the level of what people can do with a personal computer and a laser printer."

"Just as the laser printer and the word processor forever changed our expectations about everyday documents, the technology found in the new Apple LaserWriters and Ofoto intelligent image processing software promises to once again change these expectations," said Jonathan Seybold, publisher and computer industry analyst. "The result of this innovation is that people can communicate more effectively by being able to easily and quickly incorporate eye-catching text and graphics into

everyday documents."

LaserWriter IIg

The LaserWriter IIg is Apple's highest performance workgroup laser printer with built-in text smoothing, grayscale imaging, and high-speed networking. It meets the needs of business professionals, desktop publishers or anyone who seeks superior grayscale print quality and high performance processing without having to use expensive and complex typesetting and imaging equipment.

LaserWriter IIf

The LaserWriter IIf is Apple's most affordable high performance workgroup laser printer with text smoothing, grayscale imaging, and advanced networking capabilities. The LaserWriter IIf is targeted towards general business users focusing on mainstream productivity applications.

Both new LaserWriter printers feature the same sleek hardware design as previous LaserWriter II printers. Because of this, hundreds of thousands of LaserWriter IINT and IINTX owners can upgrade to either the IIg or IIf via a simple logic board exchange. By replacing the board, these users will gain all the benefits of the new technologies incorporated in the IIg and IIf.

Features and Benefits

The LaserWriter IIg and LaserWriter IIf printers incorporate the following advancements in image quality, performance, and networking capabilities:

Image Quality

Two new proprietary technologies called PhotoGrade and FinePrint are at the heart of the innovative imaging capabilities of the printers

and make it possible for users to print high quality text, images and photographs.

PhotoGrade:

PhotoGrade technology enables the LaserWriter IIg or IIf to print high quality grayscale images by controlling the size and placement of dots that make up the page. Based on a 300 dpi printer engine, the IIg and IIf deliver more than 67 shades of gray and produce output equivalent to 800 dpi printers. Users benefit with a document that contains much more realistic and detailed graphics.

FinePrint:

FinePrint is edge smoothing technology that improves the quality of text and line art. It virtually eliminates the jagged edges characteristic of many laser printed documents.

FinePrint and PhotoGrade are both standard on the LaserWriter IIg. FinePrint is standard on the LaserWriter IIf and an additional 4MB of RAM (random access memory) is required to enable the PhotoGrade capability. Together, FinePrint and PhotoGrade allow users to incorporate high quality text, images, and photographs into everyday documents without the loss of detail and clarity seen with most other desktop laser printers today.

Fonts:

Thirty five type styles are included with the printers to give users a wide choice of print styles. The printers also support hundreds of downloadable fonts available from third-party computer typography companies. ASCSI (small computer systems interface) port is built-in to allow users to connect an external hard disk for additional font storage.

Performance

The LaserWriter IIg and IIf are based on the 25MHz and 20MHz (respectively) Motorola 68030 processor and the Canon LBP-SX-8 ppm (page per minute) laser engine. The printers' unique logic board design balances the workload of a number of different processors and ASICs (application specific integrated circuits) by offloading tasks from the main processor. The

result is printer performance equivalent to, or better than that of, many RISC-based (reduced instruction set computing) and higher page-per-minute laser printers currently available, particularly when printing pages with lots of fonts and graphics.

Connectivity/Compatibility

To facilitate multi-vendor connectivity, the printers include a number of different networking options.

EtherTalk:

For the first time on a mainstream laser printer, EtherTalk—Apple's implementation of ethernet—is built into the LaserWriter IIf. This provides users of any computer with a high-speed industry standard networking connection to the LaserWriter IIf. In addition to performance benefits, EtherTalk enables users to connect their printer to ethernet environments as easily as connecting to AppleTalk.

AppleTalk:

Built into every Macintosh, AppleTalk allows the printer to be shared among groups of Macintosh users via a built-in LocalTalk connector.

RS-232 Serial Interface:

The printers also incorporate an RS-232 serial interface, which provides connectivity for MS-DOS and other non-Apple computers. Via the serial port, users can print non-Postscript documents using the built-in HP LaserJet series II printer emulation (PCL4+), a popular language with MS-DOS machines.

All Ports Active:

For maximum flexibility, the printers simultaneously connect to multiple kinds of networks and computers. There is no need to manually reconfigure the printer to receive data through a particular port.

Adobe Postscript Level 2:

As with all of Apple's work group laser printers, Postscript software is included as a standard feature that gives users sophisticated text and graphics capabilities. The LaserWriter IIf and IIfx are Apple's first printers to use Postscript Level 2 which improves printing speed,

adds new capabilities, and is fully compatible with existing applications and drivers.

"The Adobe/Apple partnership has produced some very innovative and leading-edge products, and these new printers continue this tradition," said Charles Geschke, Adobe's president and chief operating officer. "The combination of Adobe's PostScript software and Apple's proprietary print enhancement technologies offers users a new level of imaging capability."

LaserWriter IIf Technical Specifications

Marking Engine:

Canon LBP-SX laser

Controller:

20MHz 68030 CPU, ASICs and I/O processors

Optional upgrade for LaserWriter IISC, IINT, and IINTX

Memory:

2 megabytes of RAM, up to 32 megabytes

2 megabytes of ROM

Print Quality:

300 dpi enhanced with FinePrint®
Optional PhotoGrade® for high-quality scanned images by upgrading to 5 megabytes of RAM

Fonts:

ITC Avant Garde Gothic®, ITC Bookman®, Courier, Helvetica®, Helvetica Narrow, New Century Schoolbook, Palatino®, Symbol, Times®, ITC Zapf Chancery®, and ITC Zapf Dingbats®

Supports any TrueType™ or PostScript fonts

Speed:

Eight pages per minute maximum

Interfaces:

Simultaneous connection to LocalTalk, RS-232, RS-422

SCSI to attach an external hard disk for font storage

Recommended duty cycle:

•Toner cartridge - 4,000 pages at 5% density

•Printer - minimum 300,000 pages (equivalent to printing 200 pages a day, 5 days a week, 52 weeks a year, for more than 5 years)

Print Materials:

•Media

- Apple recommends 16- to 20-lb. photocopy or typewriter bond [60 to 80 g/m (to the 2nd power)] in normal mode; up to 36-lb. [135 g/m (to the 2nd power)] in manual mode with face-up tray open.

- Most textured and colored stock

- Labels, envelopes, and transparencies

•Sizes

-Paper: U.S. letter, U.S. legal, A4, B5

-Envelopes: minimum 3.5 x 7 in. (86 x 178mm); maximum 7.4 x 10.5 in. (188 x 267mm)

Capacities:

•Paper cassette: 200 sheets of 20-lb. [75 g/m (to the 2nd power)] paper

•Optional envelope cassette: 15 envelopes

•Manual feed with single sheet feeder

Printable Surface:

•Maximum printable line: 8.1 in. (205.9 mm)

•Minimum top and bottom margins: .197 in. (5.1 mm)

•Minimum left margin: .197 in. (5.1 mm)

•Minimum right margin: .197 in. (5.1 mm)

The actual printable area may vary depending on the application and amount of RAM installed.)

Size and Weight:

Height: 8.6 in. (21.8 cm)

Depth: 18.5 in. (47.5 cm)

Weight: 45.0 lb. (20.3 kg)

Width: 20.0 in. (50.8 cm)

Width with letter-size cassette: 26.4 in. (67 cm)

Power Requirements:

U.S./Japan: 90 to 126 volts AC, 50 to 60 hertz

Europe/Australia: 198 to 264 volts AC, 50 hertz

Power Consumption:

Standby: 170 watts average

Operating:

- 900 watts maximum at 115 volts

- 780 watts maximum at 220 volts

- 880 watts maximum at 240 volts

LaserWriter IIfx Technical Specifications

Where different from the IIf

Controller:

25MHz 68030 CPU, ASICs and I/O processors. Optional upgrade for LaserWriter IISC, IIf, IINT, and IINTX

Memory:

5 megabytes of RAM, up to 32 megabytes; 2 megabytes of ROM

Print Quality:

300 dpi enhanced with FinePrint®
Optional PhotoGrade® for high-quality scanned images

Interfaces:

Simultaneous connection to Ethernet, LocalTalk, RS-232, and RS-422; SCSI for external hard disk font storage

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Mac Quadra 700 & 900

Latest information from Apple on the Macintosh Quadra line.

Macintosh Quadra 700

The Quadra 700 is designed with a Motorola 68040 microprocessor, faster graphics architecture, and enhanced NuBus and SCSI subsystems. It runs applications up to twice as fast as the Macintosh IIx. Built-in features give you direct access to networks and peripheral equipment. You can connect directly to high-speed Ethernet and LocalTalk networks. It is compatible with all Apple monitors. The Quadra 700 supports up to 24 bits of colour for photographic-quality images. Nine built-in ports allow access to printers, scanners, high-capacity disk drives, and other peripheral equipment. The Quadra 700 supports up to 20MB of RAM to work with larger files and many open applications. You can add a coprocessor, media integration, or data acquisition cards using the two NuBus expansion slots.

Macintosh Quadra 700 4/80 CPU

Macintosh Quadra 700 personal computer with 4 megabytes of RAM, one 8-megabyte internal hard disk, and built-in 1.4 megabyte Apple SuperDrive; mouse; microphone; system software and HyperCard software, complete documentation; limited warranty statement.

Macintosh Quadra 700 4/Apple SuperDrive

Macintosh Quadra 700 personal computer with 4 megabytes of RAM and built-in 1.4 megabyte Apple Super Drive; all other features included with the Quadra 700.

Macintosh Quadra 700 4/160

Macintosh Quadra 700 personal computer with 4 megabytes of RAM, one 160-megabyte internal hard disk, and built-in 1.4 megabyte Apple SuperDrive; all other features

included with the Quadra 700.

Macintosh Quadra 700 Technical Specifications

Microprocessor: MC68040, 32-bit architecture, 25 MHz clock speed
Integral Paged Memory Management Unit (PMMU), Floating Point Unit (FPU), and 8-kilobyte cache architecture

Memory: Comes with 4 MB of RAM on the logic board and 4 memory expansion slots. Expands to 20MB of RAM by installing 4MB SIMMs in the empty slots and replacing existing 1MB with 4MB RAM chips.

Disk drives: Built-in Apple SuperDrive 1.4MB floppy disk drive 80MB or 160MB internal Apple SCSI hard disk drive

Video display: Supports all Apple monitors, including:

Macintosh 12 inch RGB Display
Macintosh 12 inch Monochrome Display
AppleColor High-Resolution RGB Monitor
Macintosh Portrait Display
Macintosh Two-Page Monochrome Monitor
Macintosh 21 inch Colour Display
Supports some other non-Apple monitors, including VGA, NTSC, and PAL.

Video RAM: 512K, upgradable to 2MB for display of more colours or shades of gray on a monitor

Interfaces: Two Apple Desktop Bus (ADB) ports, supporting a keyboard, mouse, and other devices daisy-chained through a synchronous serial bus

Two serial (RS-232/RS-422) ports, 230.4 kilobits per second maximum (up to 0.920 megabits per second if clocked externally)

SCSI bus interface

Video port to support RGB and monochrome monitors of various

sizes and resolutions

Two internal NuBus expansion slots
One processor-direct slot provides access to the CPU bus for highest possible performance.

Stereo sound output port capable of delivering sound to both channels of a stereo device

Sound input port for monaural sound input

AUI-15 Ethernet connector

Keyboard: Supports all Apple Desktop Bus keyboards.

Mouse: Apple Desktop Bus Mouse; mechanical tracking, optical shaft, or contact encoding

Sound generator: Custom Sound Chip drives stereo miniature phone jack headphones or stereo equipment.

Clock/calendar: Custom chip with long-life lithium battery

Microphone: Electret, omnidirectional; output voltage is 4 millivolts, peak to peak, at normal volume.

Disability access: CloseView, Easy Access, and visible beep included with system software. These built-in features and third-party options provide alternative input and output tools for people with disabilities.

Electrical requirements:

Line voltage: 100 to 240 volts AC, RMS automatically configured
Frequency: 50 to 60 Hz, single phase

Power: 50 watts maximum, not including monitor power

ADB power requirements:

Maximum current draw for all ADB devices: 200 milliamps (a maximum of three ADB devices is recommended)

Mouse draws 80 milliamps.

Keyboard draws 25 to 80 milliamps, depending on the keyboard model used.

Operating environment:

Operating temperature: 50 to 104 degrees F (10 to 40 degrees C)

Storage temperature: -40 to 116.6 degrees F (-40 to 47 degrees C)

Relative humidity: 20% to 80 % noncondensing

Maximum altitude: 10,000 ft. (3,048 m)

Size and weight:

Main unit:

Width 11.9 in. (30.2 cm)

Height 5.5 in. (14.0 cm)

Depth 14.4 in. (36.5 cm)

Weight 613 lb. 10 oz. (6.2 kg)*

Mouse:

Height 1.1 in. (2.8 cm)

Width 2.1 in. (5.3 cm)
Depth 3.8 in. (9.7 cm)
Weight 6 oz. (.17 kg)

Macintosh Quadra 900

The Quadra 900 runs applications up to twice as fast as the Macintosh IIx with these features:

- Increased speed of the Motorola 68040 microprocessor
- Faster graphics architecture
- Improved SCSI and NuBus capabilities

Some built-in features include:

- Ethernet and LocalTalk cards
- Apple video cards
- 24-bit colour support for photographic-quality images
- Ten ports for accessing printers, scanners, or high-capacity disk drives

The Quadra 900 supports up to 64MB of RAM, so you can work with larger files and many open applications. There are five expansion slots to add NuBus cards. It also supports up to four storage devices. For added security it has a physical key lock.

Macintosh Quadra 900 4/Apple SuperDrive

Macintosh Quadra 900 personal computer with 4 megabytes of RAM and built-in 1.4 megabyte Apple SuperDrive; mouse; microphone; system software and HyperCard® software; complete documentation; limited warranty statement.

Macintosh Quadra 900 4/160

Macintosh Quadra 900 personal computer with 4 megabytes of RAM and built-in 160 megabyte internal hard disk, 1.4 megabyte Apple SuperDrive; all other features included with the Quadra 900 above.

Macintosh Quadra 900 Technical Specifications

Microprocessor: MC68040, 32-bit architecture, 25 MHz clock speed
Integral Paged Memory Management Unit (PMMU), Floating Point Unit (FPU), and 8-kilobyte cache architecture

Memory: Comes with 4MB of RAM standard and 12 memory expansion slots for SIMMs (Single In-line Memory Modules).

Expands to 64MB of RAM by installing 4MB SIMMs in the empty slots and replacing existing 1MB RAM SIMMs with 4MB RAM chips.

Disk drives: Built-in Apple

SuperDrive 1.4MB floppy disk drive
Support for up to three additional devices, such as a CD-ROM drive or Apple SCSI hard disk drive (several capacities available)

Video display: Supports all Apple monochrome and colour monitors, including:

- Macintosh 12 in. RGB Display
- Macintosh 12 in. Monochrome Display
- AppleColor High-Resolution RGB Monitor
- Macintosh Portrait Display
- Macintosh Two-Page Monochrome Monitor

Macintosh 21 in. Colour Display
Supports some other non-Apple monitors, including VGA, NTSC, and PAL. **Video RAM:** 1MB, upgradable to 2MB for display of more colours or shades of gray on a monitor

Interfaces: One Apple Desktop Bus (ADB) port, supporting a keyboard, mouse, and other devices daisy-chained through a synchronous serial bus

Two serial (RS-232/RS-422) ports, 230.4 kilobits per second maximum (up to 0.920 megabits per second if clocked externally)

SCSI bus interface

Video port to support RGB and monochrome monitors of various sizes and resolutions

Five internal NuBus expansion slots
One processor-direct slot provides access to the CPU for highest-possible performance.

Stereo sound output port capable of delivering sound to both channels of a stereo device

Sound input port for monaural sound input

One stereo line input port

AUI-15 Ethernet connector

Keyboard: Supports all Apple Desktop Bus keyboards.

Mouse: Apple Desktop Bus Mouse; mechanical tracking, optical shaft, or contact encoding

Sound generator: Custom Sound Chip drives stereo miniature phone jack headphones or stereo equipment.

Clock/calendar: Custom chip with long-life lithium battery

Microphone: Electret, omnidirectional; output voltage is 4 millivolts, peak to peak, at normal volume.

Disability access: CloseView, Easy Access, and visible beep included with system software. These built-in features and third-party options

provide alternative input and output tools for people with disabilities.

Electrical requirements: Line voltage: 100 to 240 volts AC, RMS automatically configured
Frequency: 59 to 60 Hz, single phase
Power: 303 watts maximum, not including monitor power

ADB power requirements: Maximum current draw for all ADB devices: 500 milliamperes (a maximum of three ADB devices is recommended)

Mouse draws 80 milliamperes.

Keyboard draws 25 to 80 milliamperes, depending on the keyboard model used.

Operating environment:

Operating temperature: 50 to 104 degrees F (10 to 40 degrees C)

Storage temperature: -40 to 116.6 degrees F (-40 to 47 degrees C)

Relative humidity: 20% to 80% noncondensing

Maximum altitude: 10,000 ft. (3,048m)

Size and weight:

Main unit:

Height 18.6 in. (47.3 cm)

Width 8.9 in. (22.4 cm)

Depth 20.6 in. (52.3 cm)

Weight 36 lb. 12 oz. (16.7 kg)*

Mouse:

Height 1.1 in. (2.8 cm)

Width 2.1 in. (5.3 cm)

Depth 3.8 in. (9.7 cm)

Weight 6 oz. (.17 kg)

* Weight will be greater with an internal hard disk.

Using the Macintosh Quadra as a File Server

When setting up your Macintosh Quadra computer as a file server, be sure to connect a monitor. Because of a problem with system software 7.0.1., the Macintosh Quadra computer will not operate properly unless a monitor is connected. This problem does not occur on any other Macintosh computer.

Apple Computer is developing a control panel program that will allow the Macintosh Quadra to be used with or without a monitor. The control panel will be available in December 1991.

Future versions of system software will correct the problem and not require the special control panel.

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Apple OneScanner

Latest information from Apple on the new OneScanner.

Apple Combines Macintosh Simplicity and Professional Quality in New One Button Scanner

Apple Computer, Inc. have introduced the Apple OneScanner with revolutionary "one-button" scanning technology that combines the hallmark Macintosh computer ease-of-use with professional quality results. The OneScanner enables novice to advanced users to create documents with more impact by easily and quickly incorporating high-quality photographs and artwork into everyday documents.

"The Apple OneScanner gives customers the high image quality they demand, as well as the simplicity Macintosh users expect," said John Moon, Apple's vice president of Imaging Products. "Its intuitive one-button control and powerful capabilities allow customers to create better-looking documents easier and faster. The OneScanner incorporates many advanced new features that, along with the LaserWriter IIg and IIx printers, will open the world of imaging and graphics to more users than ever before."

The Apple OneScanner has the same award winning external hardware design as the previous Apple Scanner, but is internally redesigned to scan images up to 60% faster. In addition, it now scans images in up to 8 bits or 256 levels of grey (photographic quality). The OneScanner also includes two scanning options: Ofoto and HyperScan 2.0.

Ofoto is a breakthrough scanning application developed in conjunction with Light Source, Inc. of Greenbrae, California. Ofoto is the first one-step scanning software for both novice and professional

users and offers many unique benefits. If desired, users can use the one-button Autoscan feature to automatically control all aspects of the scanning process from setting brightness and contrast to straightening and cropping images to adjusting images for the printer or output device being used. However, if more experienced users want to explore special effects and other individual variations with their scanned images, they have the option of manually controlling all aspects of scanning. The Autoscan process removes the complexities of scanning while ensuring high quality images. It frees users from the frustrations experienced with many other scanning applications and allows them to concentrate on the final results of their documents.

"When we designed Ofoto for the Apple OneScanner, our objective was to have it automatically make a scanned photograph look like the original—freeing the user to concentrate on expressing an idea with words and pictures," said Michael Solomon, president of Light Source, Inc. "Ofoto achieves this level of simplicity, and still provides the quality results and sophistication required by experts."

"We believe that the combination of Apple hardware technology and the Ofoto intelligent image processing software will open up the world of scanned images to broad new classes of users," said Jonathan Seybold, publisher and computer analyst.

Ofoto also incorporates a new technology called Adaptive Calibration which ensures the highest possible quality for scanned documents delivered to any printer or output device. This process adjusts the scanned image through

the computer to provide optimal results whether using a low-cost-ink jet printer, mid-range laser printer, or high-end offset press. In addition, high quality rotation and scaling routines also contribute significantly to the quality of documents. The scanned image looks like the original without significant changes in contrast and brightness and minimises loss of detail.

Also included with the OneScanner is HyperScan 2.0, an improved version of the original HyperScan application that takes advantage of the capabilities of OneScanner and HyperCard 2.0. HyperScan 2.0 allows users to scan images directly into HyperCard stacks. Its improvements focus on two major areas: the use of palettes to simplify the user interface, and the ability to scan various size areas.

Apple believes that the OneScanner system's ease of use, professional quality and affordability will appeal to a broad range of Macintosh users—educators and students, small businesses, corporate users, and the publishing community—anybody who wants to create documents with more impact in order to communicate better.

Apple OneScanner Technical Specifications

Hardware:

Scanner Type: Flatbed

Resolution: 72 - 300 dpi in 1 dpi increments

Max document size: 8.5 by 14 inches

Grey-scale levels: 256 levels (8 bits per pixel)

Scaling: unlimited

Interface: Small Computer Systems Interface (SCSI)

Electrical Requirements:

Line voltage: 110 volts AC \pm 10%

Frequency: 58 to 62 hertz

Power: 45 watts maximum

Environmental Requirements:

Operating temperature: 50°F to 104°F (10°C to 47°C)

Storage temperature: 50°F to 149°F (10°C to 47°C)

Relative humidity: 5% to 95% noncondensing

Altitude: 0 to 10,000 ft. (0 to 3048 m)

Ofoto Application Software:

•Autoscan for setting all parameters, selecting and

straightening images

- Adaptive calibration of any printer to deliver the best possible images
- Selection and scaling tools for enlarging or reducing an image
- Virtual imaging system to accommodate large image files by expanding system memory with hard disk space
- High-quality rotation and scaling for image manipulation without loss of quality
- Balloon Help facility for interactive learning
- Support for PICT, TIFF, EPS, and MacPaint file formats

HyperScan 2.0 Software:

- Variable size scanning to match the size of HyperCard 2.0 stacks
- Controls on palettes for each

access

- Built-in help

Size and Weight:

Height: 4.4 in. (11.2 cm)
Width: 13.6 in. (34.5 cm)
Depth: 21.8 in. (55.4 cm)
Weight: 23.0 lb. (10.45 kg)

System Requirements:

Macintosh system software version 6.0.7 or later
HyperCard 2.0 to use HyperScan 2.0

Appropriate SCSI cabling

Compatibility:

- All Macintosh computers
- Most Macintosh applications, including word processing, presentation, graphics, database, and page layout programs
- PICT, TIFF, EPS, and MacPaint® file formats

Pricing and Availability

The Apple OneScanner has a U.S. suggested retail price of \$1,299 (U.K. — £1,095) and is available immediately through authorized Apple resellers. Customers who own the original Apple Scanner will be able to upgrade to the new software for a suggested retail price of \$195 through Light Source by calling 1-800-231-SCAN from the U.S. and Canada; or by calling 415-461-8000 from most other countries. In Europe, software upgrade information can be obtained through authorized Apple resellers.

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EtherPeek™ Now Supporting Banyan® Vines®

EtherPeek is now shipping with new protocol decoder support for Banyan VINES. This latest protocol decoder was developed in conjunction with support for Macintosh clients in Banyan's upcoming VINES Version 5.0 release and highlights moves by The AG Group and EtherPeek toward support of mixed-vendor environments which are increasingly standard.

EtherPeek is a packet-level network analyzer software package. It captures network traffic from any type of computer directly from the Ethernet wire and allows users to troubleshoot and optimize networks by displaying and analyzing overall patterns and individual packets.

At the lowest level, EtherPeek allows users to look inside datagram packets. Normally, packet contents are displayed in bit representations which are difficult to use except through tedious study. EtherPeek's decoders, however, translate these bit representations into plain English, detailing protocol layers and data contents.

By examining packet construction and content, network managers can often pinpoint the

cause of a problem and its source, and developers of network hardware and software can verify protocol compliance. The VINES network operating system supports DOS, OS/2, Windows and Macintosh clients.

This release builds on the company's emphasis on making worldwide networking transparent to users, no matter what client they choose. VINES now features a new architecture which, among other things, allows AppleTalk, the language spoken by Macs, to be encapsulated into VINES packets.

According to David Penzias, Banyan Director of Third Party Marketing, "With the announcement of VINES Version 5.0, which includes comprehensive Macintosh support, we are delighted that VINES users will be able to take full advantage of The AG Group's EtherPeek network analysis software. EtherPeek demonstrates how the Macintosh can be seriously considered as a full-fledged participant in mixed-vendor environments."

Pricing and Availability

Protocol decoders for Banyan VINES are available now and are shipping with EtherPeek 1.4.1, the latest release version. Because of EtherPeek's modular construction, current owners need only add a file to the "Packet Decoders" folder in EtherPeek.

Current owners of EtherPeek can obtain the decoder file for free on

AppleLink in the AG Group software update folder or by calling the company directly.

Retail pricing for AG Group products is as follows: EtherPeek 1.4.1, an Ethernet network analyzer, \$795; LocalPeek 1.0.1, LocalTalk network analysis software, \$495; Net Watchman 1.1.1, early-warning monitor for AppleTalk networks, \$195. These three products comprise The NetPatrol Pack, which retails for \$1,295.

About the AG Group

The AG Group, Inc. specializes in easy-to-use software tools for troubleshooting, optimizing, maintaining and expanding multivendor computer networks.

The company was founded in early 1990 by Timothy McCreery and Mahboud Zabetian to market affordable and effective network management tools which capitalize on the Macintosh interface and can be used in integrated, multivendor LAN environments.

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The Apple & IBM Story

The Apple and IBM relationship changes for the better.

Apple/IBM Launch New Joint Venture

Apple and IBM Launch a New Joint Venture System Software Company for a New Generation of Computing

Apple Computer, Inc. and IBM have announced the formation of a new software company they believe will be instrumental in creating the next generation of computers for the mid to late 1990s. The new company will be jointly owned by Apple and IBM, yet will operate independently so it can meet the needs of the broad industry and customer constituencies.

The joint venture will develop and license an entirely new genre of system software that greatly simplifies computer programming and allows much easier customisation of software programs. The new company's system will be based entirely on object-oriented technology, a process that greatly simplifies software creation employing reusable building blocks of programming code. In contrast to current operating systems, which offer object-oriented layers, the joint venture's technology is being designed from the ground up as a full object-oriented operating environment. This means developers can realise the full potential of object-oriented technology without the programming constraints of operating systems on the market today.

The new company's technology will be used separately by both Apple and IBM as the core of new products expected in the mid-1990s. New products based on the joint venture's technology will operate in parallel to, and complement the evolution of, Apple's and IBM's existing product

lines, (Macintosh, OS/2 and AIX). Each company plans to offer compatibility between future joint venture products and their current products, allowing users to leverage their current investments in software. According to the companies, the joint venture company is structured to encourage widespread industry adoption of this operating system platform, providing customers with a vast array of exciting new applications and capabilities. The new company will openly license its software technology to other system vendors, thereby broadening its availability.

The operating environment is planned to be "platform independent", meaning it will work on many different kinds of hardware platforms, such as IBM's RISC POWER architecture, Motorola's 680X0, and Intel's 80X86. "The next major era of computing must focus on meeting the needs of the developer. Object-oriented technology is the driving force behind this shift, and the new company is well on the way to delivering the solution," said John Sculley, Apple's chairman and chief executive officer. "Beginning with a new blueprint for a completely object-oriented technology, the joint venture's technology will leapfrog programming constraints developers face with today's systems, which layer object-oriented technology onto current software architectures."

James A. Cannavino, IBM vice president and general manager, Personal Systems, said: "Building a true object-oriented software environment will unleash significant productivity gains for users and developers. We are drawing on the best of IBM and Apple to produce a fundamentally

new and better method of software construction, one that builds programs with prefabricated blocks instead of line by line. No other technology has the potential to break the applications logjam that so frustrates customers today."

The joint venture's board of directors will be composed of an equal number of Apple and IBM representatives and will name a chief executive officer at a later date. Apple brings more than three years of development and more than a million lines of production code from its Object-Based Systems division (code-named the Pink research effort) to the new company, and IBM brings the best of its object-oriented technology, including results from its Patriot Partners joint venture.

Both Apple and IBM will transfer employees to the new company, which will be based in the Santa Clara Valley area of California. Final agreement is subject to closing and government reviews and waiting periods.

Apple and IBM Form a New Multimedia Venture

Apple Computer, Inc. and IBM have announced the formation of an independent, joint venture company that will catalyse the development of exciting new multimedia technologies and products. The new company will develop, license, and make available specifications and technologies to promote the exchange of information such as sound, graphics, video, text, and animation across a variety of computing and consumer electronic devices.

The joint venture company intends to license its future specifications to those companies developing multimedia products, including Apple and IBM. Apple and IBM will continue to independently develop and market their own multimedia products. Both companies expect that the technologies and products offered from the joint venture will enhance Apple's and IBM's future multimedia efforts.

Among other activities, the new venture will develop and promote data formats—that are independent of the computer system used—in order to allow developers to concentrate on multimedia

applications that will play on a wide variety of platforms from many different vendors.

"We believe that multimedia technology will be the cornerstone for the next generation of computing," said Dr. David Nagel, vice president of Apple's advanced technology group and acting general manager of Apple's consumer products division. "Animation, video, and sound will proliferate throughout new interactive applications in much the same way as graphics and text do today. The new company will provide a basis of technology for the industry to build upon and will prove to be a springboard for exciting new developer innovations across the education, business, home, and entertainment markets."

"Through this joint venture, IBM and Apple will contribute their experience in multimedia computing to aid the growth of this rapidly changing field," said Lucie Fjeldstad, IBM vice president and president of the Multimedia and Education Division. "With this organization, we will be able to more quickly and cost-effectively deliver platform-independent multimedia technologies that will enable multimedia content providers to thrive."

Apple and IBM will contribute resources, as well as license their multimedia technology to the new venture. The new venture's board of directors will be composed of an equal number of Apple and IBM representatives and will name the company's executive staff at a later date. The new company will be headquartered in the San Francisco Bay Area. Final agreement is subject to closing and government reviews and waiting periods.

Apple and IBM Offer Customers an Open-Systems Platform

Apple Computer, Inc. and IBM have announced a software licensing agreement that will allow for the establishment of PowerOpen, an open-systems environment that will provide customers and developers an easy-to-use, standards-based, high-performance platform.

A future release of IBM's standards-based AIX operating system, based on the Open Software Foundation's OSF/1 operating system, will be combined with the world-class, easy-to-use Macintosh

interface provided by Apple's UNIX offering, A/UX. This new operating system will run on the POWER (Performance Optimization with Enhanced RISC) architecture, as well as the PowerPC architecture announced by Apple, IBM, and Motorola. The PowerOpen technologies will be licensed to other vendors. Apple and IBM each will use PowerOpen in future versions of their respective UNIX implementations, A/UX and AIX.

Both Apple's and IBM's RISC hardware lines will support the PowerOpen environment, giving customers access to the broadest set of applications on any UNIX-based open-systems platform, including the thousands of AIX and Macintosh applications.

The new PowerOpen environment will provide customers with a highly scalable, standards-based, open-systems architecture ranging from desktop personal computers to very large network servers. Customers will have the choice of acquiring the Macintosh user interface, as well as the OSF/Motif interface, from both Apple and IBM. Additionally, customers will be able to preserve their application investments, as current AIX, A/UX, and Macintosh applications will be supported in the PowerOpen environment.

The PowerOpen environment combines the best of both companies' current UNIX products. It makes use of the new PowerPC hardware, which is an architecture based on IBM's acclaimed RISC System/6000 and IBM's powerful AIX operating system. In addition, Apple's A/UX provides an easy-to-use, integrated Macintosh UNIX solution. Apple and IBM each plan to make their PowerOpen products conform to major industry standards, such as POSIX and X/Open.

Software developers will benefit from the new high-volume business opportunity offered them by the PowerOpen environment. Application developers will benefit from access to both A/UX and AIX on a single hardware platform with no need to recompile. In-house developers will benefit from the support of both companies and the wealth of development tools available.

"With this agreement, Apple will extend our easy-to-use A/UX by porting it to a widely accepted,

standards-based kernel—OSF/1, and high-performance RISC system," said Michael Spindler, Apple's president and chief operating officer. "This new open-systems environment will allow customers to run the thousands of Macintosh productivity applications and AIX applications from our desktop personal computers on up to enterprise systems."

"AIX, the POWER architecture and the Macintosh user interface have had broad acceptance in the marketplace. The PowerOpen environment that results from this combination with the Macintosh desktop, interface and applications base will provide customers with an unequalled selection of UNIX-based solutions to meet their needs," said James A. Cannavino, IBM vice president and general manager, Personal Systems. "Additionally, it offers applications developers a very attractive business opportunity in the industry. This is clearly a big win for the entire marketplace."

The PowerOpen technologies will be made available to other vendors. Licensing details will be announced at a later date.

The companies also intend to form a new industry-wide organization to promote the PowerOpen environment with other manufacturers, software developers and end users.

Products resulting from this agreement are expected to reach the marketplace over the next two to three years.

Apple/IBM Offer New Networking Efficiencies

Apple and IBM to Offer Customers a Broad Range of New Networking Efficiencies

Customers will find it easier to connect Macintosh computers to their IBM networks because of an agreement between Apple and IBM. The agreement covers both planned and existing products that will allow customers to integrate their Macintosh personal computers more effectively with IBM mainframe, midrange and departmental networks.

Macintosh computers acting as clients to IBM servers will be able to access a more comprehensive set of services on IBM-based networks than was available to them before.

Such services for local and wide area networks include file and printer sharing, database access, terminal services, client/server applications, and network management. The agreement will also enhance IBM's role as a total systems provider for customers who require multivendor networking, where equipment from many different manufacturers must work together flexibly and seamlessly.

The new products for improved networking efficiencies will be developed separately by Apple and IBM, with the first available as early as December 1991. Under the terms of the agreement, products will be marketed and supported by the developing company.

This networking announcement highlights five areas:

- AppleTalk services for OS/2 will allow Macintosh, OS/2, and DOS-based personal computers to share files, query corporate databases, and access a broad range of communications services through a common OS/2 server. To help achieve this, Apple will license to IBM the source code for AppleTalk protocols.

- As part of the effort to ensure interoperability between its current and future environments, Apple has licensed IBM's Token-Ring technology for use in a product that is expected to appear later this year.

- Macintosh personal computers will be able to participate more fully in Systems Network Architecture (SNA), IBM's blueprint for exchanging information across large, enterprise networks. One of the key developments will provide Macintosh users with full access to Advanced-Peer-to-Peer Networking (APPN) directory and routing services. APPN is an extension of SNA that facilitates the flexible and easy distribution of applications, information, and other network resources to the end user.

- Network management integration will enable customers to manage networks with Macintosh personal computers by IBM's LAN Network Manager or centrally through NetView, IBM's flagship network management product. This will promote more cost-effective and efficient management of networks consisting of Apple and IBM products.

- Macintosh personal computers

and IBM's AS/400 family of midrange systems will communicate more effectively for improved access to AS/400 data and application resources. Enhancements for the Macintosh will include terminal services as well as the more advanced client/server functions of the AS/400. Apple will also implement its Data Access Language server for the AS/400. Data Access Language is Apple's Structured Query Language (SQL)-based technology for consistent access to relational databases on multiple platforms.

"The agreement with Apple presents exciting new opportunities to further IBM's ongoing commitment to build open, flexible networks where data and information can be exchanged across many different computer platforms," said Ellen Hancock, IBM vice president and general manager of the Networking Systems line of business. "Along with the enhanced networking capabilities of IBM's own PS/2 and OS/2 products, these efforts underscore IBM's commitment to promoting the growing role of the desktop in enterprise computing."

"We've made great strides in making Macintosh interconnect seamlessly into multivendor environments. The agreement with IBM will strengthen our position in enterprise computing—and more importantly make things easier for customers of both companies," said Michael Spindler, Apple's president and chief operating officer.

These announcements complement an existing array of products that help support interoperability between Apple desktop computers and IBM networks. Some of the functions these products address include workstation-to-mainframe hardware and software, local and wide area connectivity, application-to-application communication, and more specialized functions such as workstation data backup and archiving.

Apple/IBM to Use PowerPC in RISC Systems

Apple, IBM to Use PowerPC Microprocessors in New Low-Cost RISC Systems; Motorola to Manufacture and Market the Chips

Apple Computer, Inc., IBM, and Motorola, Inc. are applying their

world-class design and manufacturing talents to produce the new PowerPC family of single-chip Reduced Instruction Set Computing (RISC) microprocessors. The PowerPC architecture will address many opportunities in the computer industry—including desktop personal computers, portable computers, entry and midrange workstations and servers.

PowerPC microprocessors will form the foundation for new high-performance, low-cost systems from Apple and IBM. Motorola will manufacture and market the technology worldwide, making this new microprocessor family widely available to other systems manufacturers. Apple, IBM and Motorola will play key roles in defining the PowerPC architecture.

The PowerPC is the hardware component of the PowerOpen computing environment announced by Apple, IBM and Motorola. Apple is also bringing the Macintosh operating system to the PowerPC, which will remain compatible with today's Macintosh. IBM will offer a new release of its AIX operating system for the PowerPC.

PowerPC is based on IBM's Performance Optimization with Enhanced RISC (POWER) architecture, the innovative design used in IBM's RISC System/6000 line of advanced workstations and servers. The first PowerPC products are expected to be available within the next two to three years. The companies also intend to form a new industry organization to promote PowerPC and the PowerOpen computing environment to other manufacturers, software developers and end users.

"The PowerPC initiative has allowed us to extend the benefits of IBM's leadership RISC technology to other computer system manufacturers, software developers, and customers who will experience a new level of performance in low-cost desktop systems," said Jack D. Kuehler, president of IBM. "We are pleased to have Apple and Motorola join us in establishing the PowerPC as the platform of choice for RISC-based personal computing."

"Our alliance integrates IBM's proven POWER architecture and the uncompromising manu-

facturing and design talent of Motorola," said John Sculley, Apple chairman and chief executive officer. "And, without a doubt, the biggest winners are Apple's customers who now have a clear RISC foundation for the 90s. It is also significant that today's Macintosh will coexist with these new systems. Customers can buy our systems today and know that they are buying into an industry leading technology."

"Our agreement with IBM and Apple represents an unprecedented combination of technology strengths that will establish the PowerPC architecture as a powerful solution for computing in the 1990s and beyond," said James A. Norling, president of Motorola's Semiconductor Product Sector. "Our combined expertise in RISC, computers, communications and software innovation ensures that end users will have access to a new era of functionality and information processing." New PowerPC Chips

Apple, IBM, and Motorola will work together to design the PowerPC microprocessors. Apple plans to use the PowerPC in future versions of the Macintosh personal computer. IBM will manufacture PowerPC chips for its own use in future desktop workstations and servers, which will complement the existing RISC System/6000 line and be able to share applications without modification. Motorola will supply PowerPC chips to Apple and will also market them for other systems and microprocessor applications.

IBM has also licensed its 0.5 micron complementary metal-oxide semiconductor (CMOS) process technology—used in fabricating chips—to Motorola. Motorola will be able to use this technology for PowerPC chip development.

The PowerPC design initiative will be spearheaded by a team of IBM and Motorola employees to be located in a customer design centre in Austin, Texas. More than 300 engineers—each continuing to work for his or her respective firm—will initially be assigned to the customer design centre project.

The goal of the team is to develop multiple PowerPC implementations, initially targeting three design points, as well as to identify requirements for future enhancements. This core team will

provide strong technical coordination while quickly bringing new designs to market.

Apple Offers 4/16 Megabit Token-Ring

Apple to Offer 4/16 Megabit Token-Ring Network Adapter Based on IBM Technology

New card for Macintosh computers is result of on-going Apple, IBM cooperation

Apple Computer, Inc. have announced at the Network trade show a new 4/16 megabit-per-second Token-Ring network adapter for Macintosh personal computers. Apple's new Token Ring 4/16 NB Card, which incorporates IBM's Token-Ring technology, will be the first product since the Apple and IBM alliance announced two weeks ago.

Token-Ring is an IEEE standard for communication among personal computers, mid-range computers, and mainframes in a local area network (LAN). A network interface card provides the physical connection between the computer and the media over which data is transmitted on the LAN.

"The initial product of our strategic relationship with IBM shows how the relationship will benefit customers with mixed computing environments," said Jim Groff, director of marketing for Apple's Enterprise Systems Division. "Apple's Token-Ring product for Macintosh is the latest example of Apple's commitment to provide solutions for large businesses—solutions which meets their requirements for ease-of-use, high performance, and reliability based on industry standards."

John McElroy, director of local area networks for IBM's Networking Systems, said, "We are pleased to see that IBM's relationship with Apple is newly strengthened with the announcement today of the 4/16 megabit Token-Ring card for Macintosh personal computers. The announcement reinforces our strategy for promoting the growth of Token-Ring technology in the fast-growing LAN marketplace."

Apple's Token Ring 4/16 NB Card Apple's new Token Ring 4/16 NB Card is a bus-master card for Macintosh NuBus computers that complies with the IEEE 802.5 standards for Token-Ring networks.

The new card is software-compatible with its predecessor, the 4 megabit-per-second TokenTalk NB Card, which it replaces. This enables customers to upgrade the performance of their Token Ring network connection without sacrificing their investment in software.

The new adapter card is one of five Macintosh coprocessor platform cards from Apple—Token Ring, Ethernet, ISDN, Coax/Twinax, and Serial. They provide a common basis for development of network products and enable portability of applications across a range of network environments.

All Macintosh Coprocessor Platform cards have a Motorola 68000 microprocessor, 512 kilobytes of RAM (expandable to 2.5 megabytes), and Apple's real-time, multitasking operating system (A/ROSE). The cards operate independently of the main Macintosh processor, executing multiple networking protocols or network applications concurrently; this maximizes both system and network performance.

The Token Ring 4/16 NB Card comes with Apple's TokenTalk software, providing AppleTalk network users with a high-performance connection to network services, such as the AppleShare File Server, Macintosh File Sharing—a standard feature of System 7.0 for Macintosh computers—and Novell NetWare servers.

For enterprise-wide networking in an IBM SNA environment, the Token Ring 4/16 NB Card operates in conjunction with Apple's SNA/ps Gateway software to provide 3270 and APPC support for Macintosh clients. Price and Availability

The Token Ring 4/16 NB Card will be available in December in the United States from Apple authorized resellers at a manufacturer's suggested retail price of \$999. Prices outside the United States may vary.

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Animation Works

A review by Peter Kemp of Animation Works from Gold Disk, Inc.

Background

Asking someone who can't draw a straight line (without the aid of a shift key) to review an "Art" package has to be asking for trouble. Yet Animation Works from Gold Disk Software has proved surprisingly easy to work with, even for a klutz like me.

What you get

The program retails at around £115 from the usual UK sources — but until 31 December 1991 Gold Disk is offering a special deal to Apple 2000 members (see the end of the review for details). The package comprises three 800K disks containing the program (not copy protected), tutorials (both

colour and black and white) together with a 175 page instruction manual and a six-sided quick reference card. There is also a demonstration VHS video cassette, but unless you have one of the new superduper video players (which handles the North American NTSC standard as well as the United Kingdom's PAL television standard) then this won't be of much use.

System requirements are "any" properly configured Macintosh with at least 1Mb, running System 6.0.5 or higher. The review was done on a monochrome LC 4/40 running under System 7.0. A minimum of

1Mb is required for black and white work with 2Mb being necessary for long, complex animations. To support colour, Color Quickdraw 1.2 is required. As expected, installation is as simple as

copying the program to the hard disk and double-clicking on the icon. The only problem I encountered, when running under System 7, was that Animation Works and Magic Apple don't get on together, so you'll have to put Magic Apple aside for the duration. A pity — but so it goes.

Together with the main program is AW Player, which allows the playing of movies without the original Animation Works program. This allows for the distribution of completed movies free of charge, without any form of licensing costs. There's even an XCMD to allow the playing of movies from within HyperCard.

Tutorial

Animation Works is a serious piece of software and although the technically competent might be able to dive straight in, there are four tutorials to guide the novice. (There is even an

introductory chapter covering some of the basics of cartoon animation which are all too easy to take for granted. For example, even though we've all seen it a

thousand times in a Tom and Jerry cartoon, do we really appreciate the way arms and legs 'bounce' and the way the limbs of a character follow an arc as they swing? Or the way a 'double-take' is only funny when preceded by a scrunched up face — exactly the opposite of the final image?)

In easy stages, the tutorials take the user step by step through a number of (remarkably simple) actions to produce stylish animations of increasing complexity. Using pre-generated artwork the user can create a realistic looking parakeet flying across a stylised sunset. Just about everything from the speed of 'flight' to the colour cycling of the backgrounds can be controlled and altered by the user. Having mastered the basic tools and terminology, the user can then move off to explore the more sophisticated opportunities available.

How it works

Animation is a three-step process. The user needs to create the characters, the backgrounds and then assemble them into animation. This program supplies the tools to do all three.

First, the animated characters, or 'actors', must be produced in individual, incremental images, called cels. (If you've seen the photo-graphs produced by Eadweard Muybridge — such as the sequence he produced to settle a bet about whether a trotting horse actually lifted all four feet off the ground at the same time — you've got the right mental image.) Stacking these and flipping through them quickly creates the illusion of movement.

Second, the backgrounds are



created. These are pictures that form the backdrop for the scenes in the animation. They may be larger than the frame size of the 'movie' allowing the user to scroll through the background, giving the illusion of travel.

Finally, these two are combined into a 'movie', which is made up of a series of frames comprising a background with actors in front of it. Actors move along a path (a line which indicates where the each cel is to go and when to move from one cel to another) which starts at a particular frame and end at some later frame. For each actor there is a path and a movie can contain an unlimited number of paths, which can move in front of, or behind other paths.

What else

In theory, that's it. Of course, to produce a polished product from scratch there's a lot of work to be done: writing the story, creating the original artwork and then putting all the pieces to form the final movie. One thing Animation Works can't do is write the story for you — that's a human prerogative. But the application provides a massive amount of support for the mechanical side of things.

Backgrounds can be imported as PICT files — even scanned images. If you want to create your own, the program provides a full featured 256 colour paint program, with a customisable air brush, gradient fills, custom brushes and much more. (It works fine in black and white and 16 gray scales as well.)

The cel editor (for producing actors) offers the same tools as the background editor but has several important other tools — a sequence player to preview movement of an actor, an onion skin tool which shows a "ghost" of the previous cel for checking movement from one cel to another, a size cel tool which

automates scaling and a rotate cel tool which automates rotation of one or more cels. Cels can be drawn within the application or imported as PICTs.

The movie editor (which puts backgrounds and cels together) has a variety of tools to simplify some of the more routine tasks. At predefined times, the user can dictate changes in backgrounds (including the wipe between them), the timing (i.e. the rate at which frames are shown), the addition of sound (whether from MacRecorder or as SND resources) and synchronisation with an external event (such as a mouse click).

Goodies

Every tool seems to have options and opportunities built into it. For example, the magnetise tool which links one path to another.

Imagine

trying to create a model of the Solar System and the difficulty of showing the orbit of the moon as it circled the Earth — while both the Earth and the moon are orbiting the Sun. With the magnetise tool it's simple — create both with circular paths and then link them together using this tool. There's even a gravity tool, to calculate automatically the effect of gravity on a falling object. (So now you can simulate a parachutist jumping from a plane, without having to calculate the exponential curve he will follow as he plummets to the ground.) And if you user want, this tool even has parameters to take account of whether parachutist will bounce when he hits the ground and how much energy he loses on each bounce!

With this sort of detail attached to each tool, the opportunities are practically limitless.

Conclusions

This is a serious piece of software which is also fun to play with. That said, "Garbage In — Garbage Out". Animation Works is not a magic wand. It can't be waved over shoddy preparation or incompetent artwork in the hope of producing a professional piece of animation.

However, for those willing (and able, unless they've got access to a lot of PICT resources!) to put a serious amount of effort into planning, assembling and fine-tuning their work, then this is definitely a tool for doing the job.

If you're going to work in this field, make sure you put Animation Works on your list of programs to consider. While there may be more sophisticated programs available, at the asking price it's hard to imagine a program that will give better value for money.

| | |
|-----------------------|--------|
| Value: | ★★★★ |
| (Special offer value: | ★★★★★) |
| Performance: | ★★★★ |
| Documentation: | ★★★★ |

Special offer:

Until 31st December 1991, Gold Disk is prepared to ship Animation Works to Apple2000 members for \$100 (US) plus \$15 for shipping and handling. (Compared to the UK street price of £115, this is a bargain!) To take advantage of this offer, send the usual details (type of credit card, card number and expiry date) to: Gold Disk Inc., Mac User Group Special

P.O. Box 789
Streetsville
Mississauga,
Ontario
Canada
L5M 2C2
tel.: (0101)
416 602
4000

Don't forget to give your full name, telephone number, address to which your credit card bills are sent (and the shipping address, if different.) To qualify for the special offer price, please identify yourself as a member of Apple2000 and quote the telephone conversation between Apple2000 and Gold Disk's marketing director (Joe Deal) on 15th October 1991.

AE Modem Card & Fax

A review by E.E. Littlewood

I have an Applied Engineering modem card in my Apple IIGS which allows me to operate at 2400 baud and being an internal card it doesn't use up precious desk space. When I bought my Mac LC at the beginning of the year I had to get out of the cupboard my old external modem so that I could access TABBS and CIS from the LC. This operates at 1200 baud and worse still it is battery driven. The batteries of course always seemed to cease to work just when I was nearing the end of a longish download. When Bidmuthin offered me the chance to review the AE card for the LC I was more than delighted with the opportunity.

In fact this card also enables one to send faxes, more of which later on. The card can also be enhanced with additions such as a math co-processor chip and can be enabled both to receive fax and to update the modem to V.42bis with the necessary add-ons.

The Modem

Since the card has two functions, then two manuals are supplied but the one dealing with the fax-send is strictly a user manual. The one which deals with the card as an internal modem card is the one you need to look at first as that is where the install instructions are to be found. The first problem encountered was the fact that the wall phone jack was not for a UK system so a replacement had to be bought. Then there was the slight struggle to get the card seated properly in the LC. Truthfully it only took a few minutes but it is nevertheless an awkward operation due to the fact that the card is installed in a horizontal position i.e. it is lying flat with the chip side of the board face down. It has to be

aligned over the Processor Direct Slot at the left back of the motherboard. There is very little room for manoeuvre and you may even have to ease some other things very slightly and very gently out of the way. With the chips face down you can't see where you're placing the card and have to do it by feel but when it does feel right then press firmly down on the left side and it should slot nicely into place. There will be a bit of friction but do not use force! As I said, a little awkward but still only a couple of minutes, lid of LC back on, one end of the phone line into the DataLink and the other (UK version) into the wall jack and we are almost ready.

There are three connector slots in the back panel of the DataLink (DL/LC) and the middle one, the Line, is the one to use for normal operation. The right hand one, Phone, may be used if you wish to connect a separate phone line. This would be worthwhile if you were intending to make heavy use of the modem and didn't want to tie up your regular phone line and lose incoming calls but of course that means getting another line from BT who may not approve of this card at all! However assuming you are not going for this option then it is important when setting up the software that you cancel 'Call Waiting' otherwise you may find that you lose the modem connection when someone tries to

ring you. The last of the slots, the Serial Connector on the left, allows you to plug in any additional external serial devices you might have in addition to those you may already have in the regular modem and printer ports. There is a warning in the manual at this point about AppleTalk. This must only be connected to one of the LC's external ports and not to the DL/LC serial connector. Since I always had a printer in the printer port and a Midi connector in the modem port, it was something of a bind to use an external modem and have to keep fishing behind the LC to change over from Midi to modem. I know, I know..... a simple switch box was the answer and finally I did just that but this is much better as there are now fewer wires, boxes etc. etc. to cope with, so I am very pleased with the hardware setup. Give a final check that all is properly connected and also check the phone to make sure you have a dialling tone. If all is well then it is time to install the software.

A CDEV and an INIT, called 'DataLink Mac' on the DL disk, have to be installed in your system folder. That being done, a simple task indeed, restart the LC and go to the Control Panel.

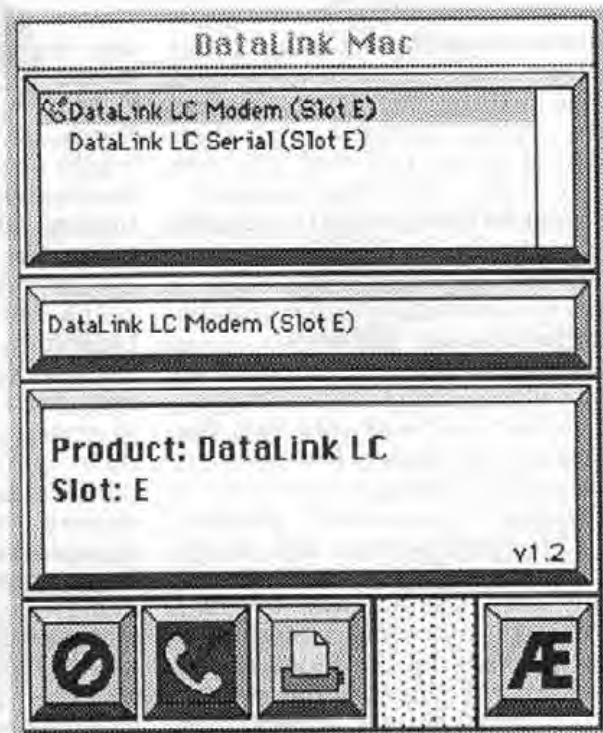


Figure 1

Figure 1 illustrates the Control

Panel and from top to bottom we can see the following. First there is the Device List showing the names of the modem and serial ports. Next there is the Device Name Entry which is where you can edit the names of the devices in the list above. Click on one of the names in the device list and then type in the new name in the Name Entry and press Return.... you may choose any name that takes your fancy but it won't be used to identify the device in question until you have rebooted. This is the usual thing with Control Panel settings. If you change your mind (before rebooting that is) then highlight your new name in the DNE, hit Delete and press Return... hey presto the default name is restored. The next panel down is the Device Info area where the currently selected device's statistics are shown but only the name of the product, the slot and the port used. The last area has an About button (AE) and three other buttons known as the Shadow buttons and these are quite interesting. The choices from left to right are:-

No Shadowing (a Forbidden symbol)
Shadow to Modem Port (a telephone icon)
Shadow to Printer Port (a printer icon of course).

Since some comms packages do not recognise internal modems then this is where you can make allowances for that but you must do your setting up as needed before trying to run your comms application as you can not do it on the fly. Choosing No Shadow means the DL/LC's internal slot is used but choosing one of the others means that the Modem portion of the DL/LC (or the Serial one if you like) appears to be connected to the LC's equivalent external port. When a shadow option is in effect then a small icon appears to the left of the name of the chosen device. In figure 1 a small telephone icon can be seen to the left of the highlighted device indicating that I was shadowing to the LC's modem port. Having sorted all that out, you can now run your normal comms program. If you decide to use the freeware one supplied on the disk then it is necessary to use shadowing.

I regularly log on to TABBS and to

CIS and I mostly use Navigator and sometimes CIM for accessing CIS and White Knight for TABBS. I have had no trouble with any of these packages and this modem card. When I do have problems they are usually due to Dialplus and the fact that I live in rather small village seemingly well divorced from modern comms technology. My first visit to CIS took 7 minutes to deal with reading & replying to mail & dealing with 6 forums, both messages & library searches. Half the forums hadn't been visited for a week and they are all very busy forums with one exception. I timed it as 9 mins 37 sec on another occasion for dealing with mail, messages and a download session of 100k, which registered as about 236 bytes per sec at best. With a 2400 baud modem, 236 is pretty good and is a great improvement on my old modem of course.

The Send-Fax

I don't send faxes quite as often as I log on to bulletin boards or information services which is just as well as my phone bills are already quite high enough. However the Send-Fax facility of this board is reasonably useful though it seems odd not to have the Receive-Fax as well. I know I can't receive faxes and although I clearly stated on the cover sheet I used that my phone was voice only, most people tend to think that they can reply with a fax if I've sent them one.

Talking about cover pages, when you run the application the menu bar contains in addition to the usual Apple, File and Edit menus a Cover, Phonebook and Journal menu. Let's look at the Cover menu first. You may design as many cover pages as you like and any draw or paint program that you have can be used to design logos and any other information you would like to appear on the cover sheet. For example if you have additional phone numbers you'd like to show then make them part of the design you create with your paint/draw application. A graphic such as this is entirely optional when you design your cover pages but obviously it can make them more attractive. Otherwise the cover sheet is designed within the AE Fax application. When you've chosen 'New Cover Page' from the Cover menu then a blank cover page is

opened up ready for you to paste in any graphic you may have designed (this is always stretched to full page size) and to position the various fields that should appear. There is an optional grid on the design page to help you with the layout and you can ask for fields to be snapped to the grid. You can also arrange for the fields to be aligned to each other in a variety of ways:-

Left Sides Left-Right Centers
Top Sides Top-Bottom Centers
Right Sides
Bottom Sides.

The choice available for the fields is:

| | |
|------------|--------------|
| To Name | From Name |
| To Company | From Company |
| To Dept. | From Dept. |
| To Phone | From Phone |
| | Date |
| | Time |
| | # Pages. |

The fields appear on top of the graphic and each will be automatically filled in as appropriate. The usual options for font, size and style etc. are also available. Sending a cover sheet with your fax is entirely optional.

The next menu is the one dealing with the Phonebook where you create new phonebooks, open existing ones, add/delete entries and generally edit them. As well as the expected fields here (the name and phone number fields must be filled in) there are also fields which allow you to choose how many retries to make and the timing between them, the send time, dialling method, command key, etc. If you want your fax to be sent to a group of people then it is possible to set up a Distribution List. Setting this up is rather like using Font/DA Mover as you choose names from the phonelist and copy them to the distribution list which is then saved under its own name in the phonebook. Such an entry looks very like an ordinary entry in the phonebook (except for a little icon in front of it) but the send time can be modified by specifying that you want to use the individual times and so each member of the group could receive their faxes at widely differing times. Otherwise the fax is sent to the members one after the other in the order they appear in

the distribution list.

The last menu is the Journal which has options to cancel, reschedule, remove or view faxes. Actually when you run Send-Fax, the Journal window opens automatically and you can see a list of your faxes and their status etc. Figure 2 below shows a Journal window with only one fax in the list.

spreadsheet or paint application. The Hold Fax facility makes this easy to do. You open and Print the first document you want to send (which may be one or more pages). Don't enter any information in the distribution fields and click the Hold Fax box when the print Dialog appears. Click OK and then open the next document to be sent.

coprocessor chip to increase the speed of math intensive applications. The modem can have the V.42bis error correcting protocol added which supports MNP levels 1 to 5. Finally it is possible to receive faxes as well as send them with the Receive Fax upgrade. I don't know the prices of these so I can't comment on their value for money.

| Fax Journal | | | | | |
|----------------|---------------|-------|----------|-----------|---------|
| When | Name | Pages | Duration | Status | Message |
| Oct 27 6:00 pm | Irene Flaxman | 1 | --'-- | Cancelled | |

Figure 2

So now we have our phonebooks and cover pages prepared, what about the actual faxes? How do we prepare them and get them as far as the Fax Journal ready to be sent? Nothing could be simpler, just open your favourite word processor, type your message and then choose Print... from the regular File menu. In just the same way you work with any normal WP document, you will have already chosen a printer via Chooser (in this case, the AE Fax Modem) and made sure the page set-up was as you wished it to be. The AE Fax Print Dialog has, in addition to the usual 'quality' and 'page range' fields, those fields necessary to indicate the recipient of the fax, send time etc. The distribution fields can be filled in automatically by selecting an entry from the phonebook list. Once you click OK, a dialog box appears which indicates "Converting Document to FAX Format", then another appears telling you 'Preparing Document For Transmission'. If you had set the send time to 'Now', you would be switched to the Journal, the modem would be accessed and the fax sent. If for any reason the fax is not sent immediately the conversion routine is not run again... only the Preparing Document dialog will be seen. It is possible to send a fax where the pages have been prepared in different applications. For example, I might use a word processor to prepare my text but if I also wanted to include pages of charts or graphics then they may well have been prepared with a

Continue doing this until you have included the last document, then fill in the distribution fields and now when you click OK the entire group is sent as one fax document. I say this is easy and so it is and yet it was the one time I had a problem. I would like therefore at this point to say thank you to those who put up with my initial trials. I first sent some trivial faxes to Irene at Apple 2000 just to get myself started and when they proved OK I decided to put the application to some more serious use. I therefore sent a fax to John Gurr at MGA and I used this hold facility. Unfortunately I hadn't got it right and I kept getting an error message which I thought meant John wasn't receiving the fax. I tried several times and since it was the weekend and late at night I then decided MGA had switched off for the weekend! How silly I thought to myself but determined to try again Monday morning. On Monday it still didn't work and I finally phoned John only to be told he had numerous copies of my fax all but the last page. Aaaaah! Read the manual more carefully, Elizabeth! John was very understanding about the whole thing and all has been well since.

There are possibly some conflicts with CDEVs and INITs but I've only had a problem with Soft FPU. There are other facilities but they are all self explanatory such as review, cancel, delete fax etc.

The Add-Ons

As I said at the beginning, it is possible to add some other functions to the board. You can add a 68881 or 68882 math

Conclusion

It's a pity that UK prices are always so much higher than US prices but that's something we's all pretty much used to by now. There are fax-modems around that are cheaper than this one but there are also plenty around which are dearer and they are all external ones as far as I know. Given the advantage of an internal card, something which is very important to me with my restricted workspace, and the possibility of extending its facilities, then I can say that I am very pleased with this card and consider it good value. My thanks to Bidmuthin for lending it for review.

Product:

DataLink LC

Manufacturer:

Applied Engineering

Available from:

Bidmuthin Technologies Ltd.

Chase House

The Chase

Pinner

Middlesex HA5 5RX

Phone: 081-868-4400

Price:

£245

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Preston's AppleCentre is in the Village

With fewer than 60 AppleCentres throughout the UK, you could be forgiven for thinking that they must all be in the bustling commercial centres of major towns and cities.

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OUR INPUT WILL IMPROVE YOUR OUTPUT

A Visit From St Silicon

*'Twas the night before Christmas, when all through the house
Not a Hard-disk was whirring, not a hand held a mouse;
The stockings were hung by the PC with care,
In the hopes that St. Silicon soon would be there;*

*The children were wrestled unplugged to their beds,
While visions of Video-games flashed in their heads;
And mamma in her nightie, and I in my cap,
Had just settled our brains and started to nap,*

*When out in the drive there arose such a clatter,
I fell out of the bed to see what was the matter.
Away to the window I flew like a flash,
Tore open the curtain and threw up the sash,*

*The light made the concrete look something like snow
And shined on the scene going on down below;
'When what to my wondering eyes should drive in,
But a Limo and eight ladies foxy and thin,*

*'With a good-looking driver, well dressed and right-on,
So I knew right away it was St. Silicon.
More rapid than electrons his consorts they came,
And he whistled and shouted and called them by name:*

*'Now, Dana! now Danielle! now Paula and Victoria!
On Connie! on Carla! on Donna and Gloria!
Past the top of the Porsche! To the top of the wall!
Now dash away! dash away! dash away all!'*

*As dry-worts that during a Board Meeting fly,
When they meet an objection, and make up a lie,
So up to the house-top his consorts they flew,
With boxes of software, and St Silicon too.*

**Then in a picosecond, I heard on the roof
Them dancing and laughing at some little spoof.
As I drew in my head and was turning around,
Down the chimney St. Silicon came with a bound.*

*He was dressed all in silk, from his head to his foot,
But his clothes were untarnished with ashes and soot,
'With a bundle of gadgets he had brought from his place,
And he looked like a salesman just opening his case.*

*His eyes—how they dilated! his dimples how merry
His cheeks looked like Moses, his nose turned up—very!
'The chip on his forehead had started to glow!
And the suit that he wore was as white as the snow*

*He'd given up smoking and chewed on a mint,
So his breath smelled like wintergreen wherever he went;
He had broad arms and shoulders and a muscular belly,
And worked out each day at a Club in the Valley.*

*He was wonderfully built, and a right jolly nent,
And I laughed when I saw him and heard what I heard;
A wink of his eye and twist of his neck,
Showed me I couldn't know what to expect;*

*He spoke all the while, on my system he worked,
'Upgraded my computer, and turned with a jerk,
Then laying his finger on top of his nose
And signalling to God, up the chimney he rose.*

*He sprang to his seat, to his girls gave a whistle,
And away they all drove back to town in a hustle.
And I heard him exclaim, as he drove out of sight,
'Merry Christmas to all, and to all a good BYTE.'*

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Copies of "The Binary Bible" may be purchased direct @ \$14.95 + overseas postage.
Write to Saint Silicon, 1803 Mission St., #174, Santa Cruz, CA 95060, USA. Or call 010-1-408-458-0213.

On Location™ 2.0 Ships

ON Technology, Inc. has begun shipping version 2.0 of its award-winning On Location software, a Macintosh desk accessory that dramatically reduces the time it takes to find and view files.

On Location 2.0 offers significant enhancements and new features, including System 7.0 compatibility. On Location indexes the name and text of files on any volume, including hard disks, network servers, diskettes and CD-ROMs. Feedback from hundreds of existing users was incorporated into version 2.0. The new features include searching for numbers in files, searching with AND or OR, printing and copying the file list, significant interface refinements, System 7.0 compatibility and user-defined timing for background indexing.

On Location 2.0 is even faster than the original version. "The key benefit of On Location is the speed and ease with which you can find words and numbers within files in


addition to finding by file name," said Kim Agricola, product manager for On Location. "As you type a few words or a phrase in its search window, On Location immediately begins looking for your file."

On Location has a large and loyal customer base. A partial list of companies who have purchased On Location includes BP International, Exxon, Monsanto, Eastman Kodak, Mitre, The New York Times, Lockheed, and NASA. "I can't begin to tell you how much easier it is to work on my Mac. On Location lets me find files by what I know they're about, rather than by what I think I called them. Instead of rummaging through folders I can search, select, and open my files quickly and painlessly from On Location," said Paul Hurley, director of computer systems at McDonough, Holland & Allen in Sacramento.

On Location supports Apple Events, a new feature of System 7 that allows different applications to communicate with each other, allowing each to take advantage of the features and strengths of the others. On Location Apple Events

will allow other programs to access the power of On Location's search capabilities. "We believe On Location delivers more value than any other utility, because you'll use it more than all the rest of your utilities put together," said Agricola. "Anyone with a hard disk, network server or CD-ROM drive should own a copy."

"I have over 300 Mb of files on my Mac. Before On Location I found myself looking for the proverbial needle in a haystack five or six times a day," said David Edwards, lead AppleTalk engineer at Cisco Systems in Menlo Park. "I consider On Location a vital tool in my system."

Customers that purchased On Location on or after July 29, 1991 are eligible for a free upgrade to version 2.0 with proof of purchase. On Location's suggested retail price is \$129.95. Registered 1.0 users can order the upgrade for \$20.00, plus \$5.00 for shipping and handling by calling ON Technology at (800) 926-5530. As with all of ON's products, On Location comes with a one-year money-back guarantee. 

New Release of MetaPICT, the CGM to PICT Translator

GSC Associates have announced the availability of MetaPICT™ 2.0, the latest release of its application that translates files in Computer Graphics Metafile (CGM) format into a PICT or PICT2 files. MetaPICT 2.0 provides a quick and reliable way to transfer graphical information generated using other computers, including the IBM PC, to the Macintosh. The CGM is an ANSI and ISO standard format for interchanging and storing pictures.

Although not widely used on the Macintosh, most publishing, drawing and presentation packages on other computers accept CGM files as input and can generate a CGM file as one output option. While competing products support only a limited subset of the CGM

standard, MetaPICT is a complete implementation that can translate all conforming CGMs into Macintosh PICT2 files.

MetaPICT 2.0 incorporates a rule-based expert system that can recognize and automatically correct for most defects and missing information in CGMs from popular sources.

The most significant enhancements that Release 2.0 adds to MetaPICT are:

- full CGM compliance, including all graphical primitive elements (including bit maps), attributes (including patterns), and precisions;
- automatic translation of all CGMs in a folder and/or all pictures in a CGM;
- a slide show mode that can automatically display a set of CGMs;
- printing of translated CGMs on any standard printer;
- improved efficiency and higher fidelity translations.

Release 1 of MetaPICT—which first shipped in August 1989—has gained widespread acceptance in

government agencies and large corporations where it is in use on a daily basis providing graphics connectivity in a multi-vendor environment. MetaPICT is also widely used in the graphics arts industry (where graphics from other computer can be imported and manipulated on the Macintosh), the geo-physical and petroleum industries (where Macintoshes are used to prepare reports and presentations based on results from mainframes), and for scientific visualization.

MetaPICT 2.0 is shipping now. The retail price is \$179. Site and corporate licenses as well as educational discounts are available.

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MacGolf Classic

A review by David Tointon of MacGolf Classic

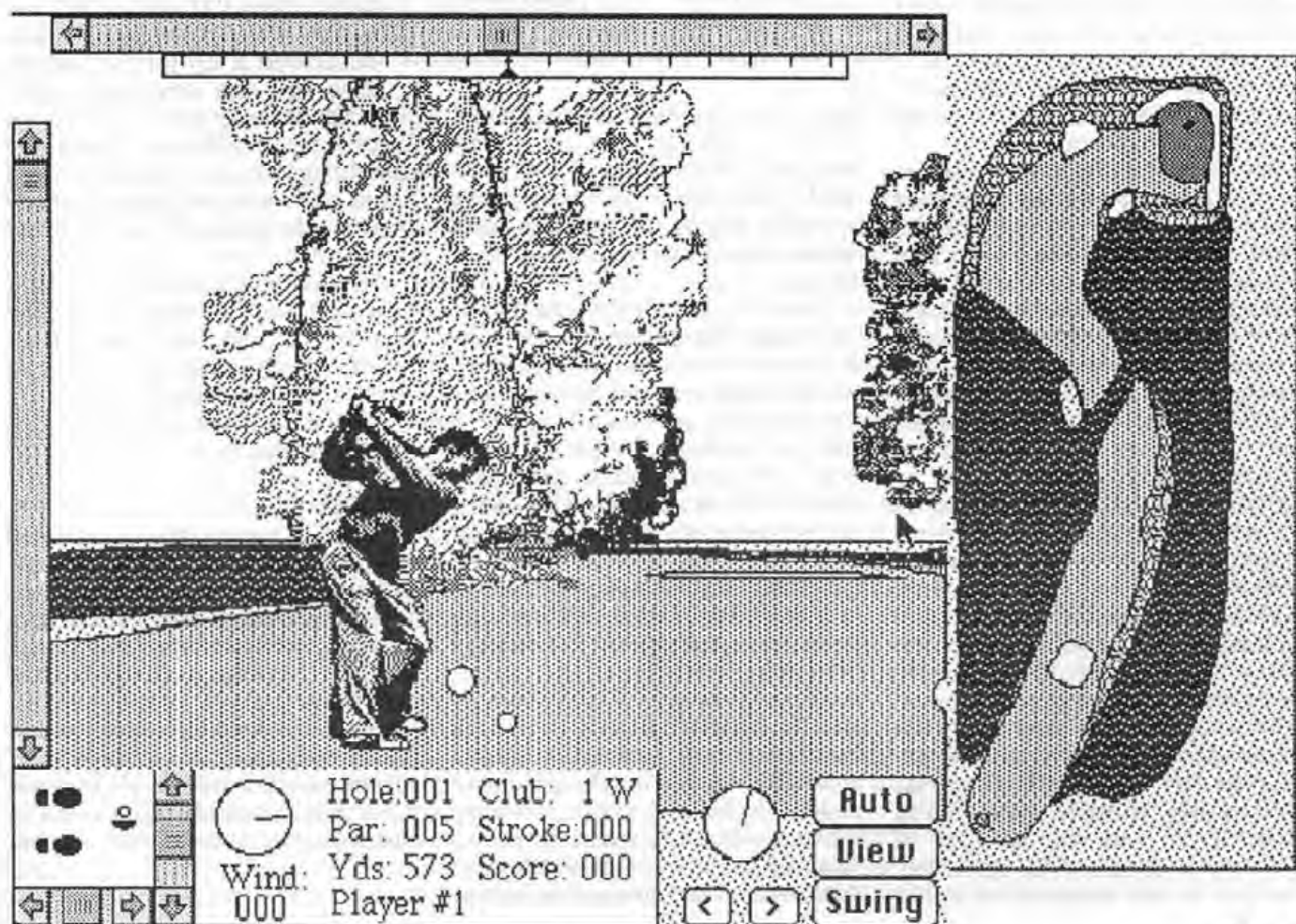
As I eagerly opened the MacGolf Classic box, I was expecting something good. Everybody has heard of MacGolf and every body loves colour. What a combination. The first thing I noticed was the packaging. It looked professional and the screen shots on the back looked detailed and colourful. The manual was reasonably clear and installation was simple. I put in the disc and double-clicked the icon. So far so good. Up came a dialog box asking me to select one of the 6 courses or the putting greens/driving range. I chose and clicked

ok. Then came another dialog box asking for the number of players, and the players' names and skill levels. The screen looked reasonable and well thought out, but like so many Mac games the full potential of the Mac's graphics and sound was not fully used. As I was saying up came the main screen. Something was wrong. My LC was not displaying any colour. No matter what I tried the screen stubbornly stayed black and white. Maybe the game will make up for it.

The next 2 golfing days were not happy ones. My LC (system 6.07)

ran MacGolf Classic too slowly for words. From the time I clicked swing to the time the ball landed out of bounds (I need some practice), 3 minutes 16 seconds had passed. With some grumbling utterances I returned MacGolf Classic. Soon, though, MacGolf Classic was in my floppy again. This time I had system 7 and a widget free Mac. Still no colour, but the nightmare turned into a dream (but not one of my absolutely super doopa favourite ones. Just a fairly good one).

So on to the actual game. The screen is divided into three. The view screen with the overhead map to its right and the 'control panel' (not to be confused with the thing under the apple menu) underneath it. The control panel was quite well designed and simple to use. On the far left there is a small window with an overhead view of the golfers feet and the position of the ball. You can alter the position of the ball and golfer's feet allowing some very realistic slice and hook possibilities. I did find however these were not used until I was at a reasonable standard. Next to this is a dial



showing direction of wind and underneath this a number which signifies the strength of wind. To the right of this is a section displaying distance to hole, player name, club etc. Next to this is another dial the same as the wind direction dial, showing the direction that the ball will travel when hit (If you need more than 1

degree precision then this can be altered more precisely with the fine tune angle adjustment scroll bar at the top of the view screen). The hand on this dial can be rotated using two arrow buttons below the dial. Finally on the right of this there are three buttons: auto (sets the direction dial on course for the pin), view (changes the view appropriately if the direction dial has been altered), and swing (makes the golfer swing. However, if the view is not correct because of adjustment to the direction dial the first click on this button is equivalent to pressing 'view'). Other than this there is the fine tune angle adjustment scroll bar at the top and the power scroll bar (adjusts swing power) at the left of the view screen. Fortunately, this is a lot easier to use than it is to explain.

Playing the game is very simple. Essentially, all you do is choose your club, point yourself in the right direction, set the power, and swing. Then you see a long black line stretching out across your map. This is where your ball has gone. I would have liked to see the ground on the main screen scrolling with the ball as well, but ... I'd better not get sidetracked and start complaining about Mac games or I'll be in trouble. Club choice is done by a simple pull down menu titled Club. However, the game becomes a lot more advanced when you have to allow for wind, sloping putting greens and nasty hazards. Often when I play now, I swerve balls round corners and hole 26 yard puts. All of this, however is not essential, I still enjoy getting the ball in the hole even if it's an incredibly simple putt. One difficulty is with the amount of power you choose. The scroll bar method is very unpredictable and



almost impossible to gauge exactly how much power to use. However I have now got the hang of it to a certain extent. Really, other than this there is not much more I can tell you about the game other than



don't try the PCAI International course until you can get round Augustina National in 65 shots. Oh yeah, one other tip, experiment with the driving range and putting greens before having a go on a course.

Now a few complaints. Although in general the game was accurate there were a couple of occasions when things were very wrong. I was on a putting green and part of a lake protruded in front of me. To reach the hole I had to putt past this protrusion missing it by about 2 feet. I set up my golfer accordingly and everything seemed to go as planned. The ball looked as if it was going to comfortably miss the lake, but to my dismay the LC smugly said 'plop'. I was in the water. Another example of this sort of problem occurred when I was in a bunker. I had just hit an iron towards the green but the computer made the 'in sand' noise. However when my view changed it appeared that the ball was not in the bunker. Also the club had changed to 'putter'

which only happens automatically if you are on a green. So I presumed I was on the green and promptly putted. The ball hardly moved and the 'in sand' noise played again. So obviously I was in the bunker, not on the green as the view screen suggested.

There is another problem. I installed the program onto my hard disc as instructed by the manual. I loaded it up and as it is meant to, it asked for the master disc (a copy protection thingy). It then ejected it (as it was meant to), but then as soon as the 'choose a course' dialog box came up it asked for it again (as it was not meant to). Now here's the problem. When running off the hard disk if you use the 'save' option it replies that the MacGolf Classic disc is locked and unlock it if you want to save a game. It then gave me the option to eject or cancel. If you choose 'eject' it just goes back to the game and if you 'cancel' it goes back to the game. Even if the MacGolf disc is not in the drive (after it has swallowed it up for the second time you can sometimes eject from within the choose course dialog box), it still waffles on about the disc being locked. The only way I could get to save my games was by running the game off the unlocked floppy disc.

The last main problem is that running under system 7 the 'application unknown' sometimes 'unexpectedly quits' due to an error type.... You get the idea.

Sorry folks I just had to put this little niggle in.

Summary

MacGolf Classic is a very good simulation. It's playable and simple and apart from a couple of glitches it's very accurate. However, it is let down by its instability and rough edges in the programming. Also the price is far too high. At the cheapest about £50. An alternative colour golf simulation is available for £30. I'll still play it until I've got to give it back. It is enjoyable. But I won't be spending my money on it. 🍏

Compression Wars

(the empire squeezes back)

Tom Pitts compares the performance of six compression packages

When the Macintosh was in its infancy, the selection of available software was minimal. There was a smattering of choices for such items as spreadsheet, word processing, and graphics programs. Times have changed — dramatically. Today, there is a plethora of software designed to satisfy any conceivable application purpose, all vying for the attentions of consumers. With the software purveyors in hot competition for your dollars, the relatively simple choice of a program to suit both your needs and your budget can be overwhelming.

In contrast, selecting a compression program had always been very simple. Until now, that is. Compression programs have experienced a boom, and we in Macdom now find ourselves in the midst of a "compression war." While the new-found competition benefits consumers, it has made the selection of a compression utility more complex. This article will examine the vagaries of Macintosh compression programs, and hopefully will help you determine which, if any, of these utilities is meant for you.

"I've got a crush on you" — File Compression

What is file compression and how does it affect you? Let's keep this simple. Typically, any file contains various redundancies. Repetitive words or characters in a word processing document, and confluent areas of black or white in a paint file are good examples. The system software stores data in a file with these redundancies intact. A compression program seeks out these repetitions, re-codes them with shorter code, and stores the data in a smaller file. The program uses a compression algorithm to re-code the data. The compression program remembers how the compression was done so that it can, when asked, reconstruct the original file. This latter process, reconstituting the original file, is often referred to as extraction or expansion. Most compression programs are able to use more than one compression algorithm, since certain files are compressed more efficiently by one method than another. As a general rule, the more efficient a program is at compressing a file, the longer it will take to complete the process.

There are two types of file compression methods. The older, more familiar type, is the archival file. In this instance, the program creates a new file called the archive file, and the selected document is compressed into the archive. Applications, documents, DA's...anything can go into this archive file, and there can be more than one document in the archive — as many as 20 different documents in some cases. The original document is

unchanged and remains on your disk. The name of the archive file is, of necessity, different from that of the original file, and a suffix is attached to indicate the compression program used to create the archive. For example, the suffix ".sit" is used by the well-known utility, Stuffit.

The second type of compression is more direct. This approach uses a method best described as "find, re-code and replace." In this case, the original file is replaced by the compressed version and retains its original name without the addition of a suffix.

Both types of compression allow for the combination of several files, folders, or documents into a single, compressed file. In addition, both methods allow for the splitting of a large compressed file into smaller components.

File compression has a multitude of beneficial uses. Telecommunications is the area of most obvious use. It is quicker, and therefore cheaper, to transmit compressed files over phone lines and to other stations in a big office network. Saving disk space is another obvious benefit of file compression that, until recently, has not been exploited by software developers. You can also achieve increased security from file compression, as some of the available compression programs allow for encryption and/or password protection of compressed files. Also worth mentioning is that a clean file, once compressed, cannot (yet) be infected by a computer virus. Finally, a compression utility allows you to combine files for transmittal to someone else in one convenient package, and can "split" files that are too large to fit on a floppy disk. The "sections" or "segments" are put on different floppies and then "joined" back together when the recipient requests it.

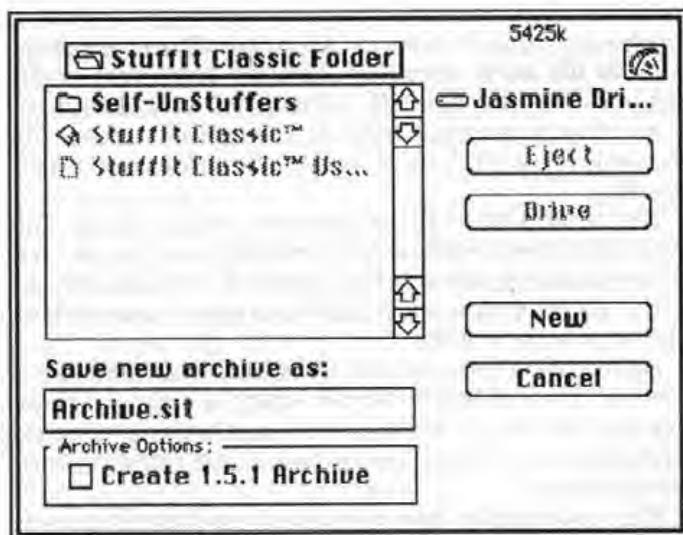
"Our chives are your chives" — Archive Compression programs

•PackIt

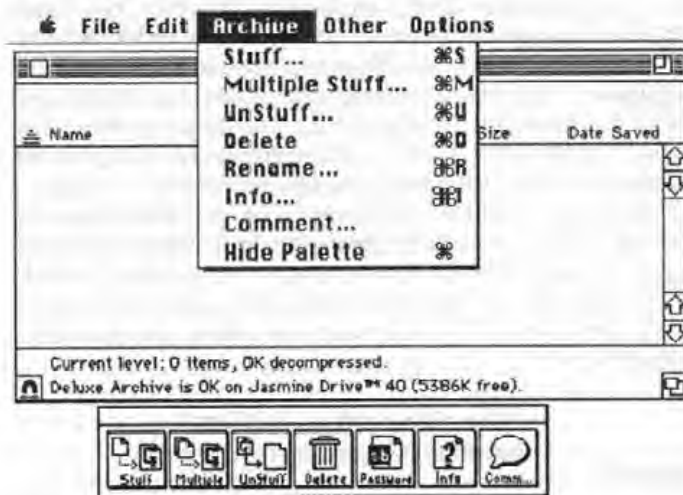
There are four compression products for the Mac that produce archival-type compressed files. PackIt, written by Harry Chesley, was the first of these programs and was the only one available in the early Mac years. In fact, the familiar ".pit" files (PackIt's famous suffix) may still be found on information services and BBS's around the world. Although PackIt has been replaced by newer, more efficient programs, it is a testament to its author's skill that the program works properly with the current system software and is still occasionally used by folks who upload software to information services.

•Stuffit

PackIt was replaced in 1987 by Stuffit, which quickly became the premiere "industry standard" compression utility for the Macintosh. Written by the incredibly talented Raymond Lau, before he started college, Stuffit is a shareware program currently distributed by Aladdin Systems, Inc; it is now available in three versions. The most common version is Stuffit 1.5.1, but this was recently replaced by Stuffit Classic 1.6. Stuffit is well known for its awkward interface, and the Classic version does little to remedy this. It is, however, the quintessential archival file-type compression program. You boot up the application by double-clicking on its icon, select "New" in the File menu, name the archive file and put it in the desired location on your disk via the standard "Get File" dialog box. For example:



Next, you add single or multiple files, through either a menu choice or a graphic button on a palette at the bottom of the window:



There are many options available, more with Classic than with version 1.5.1, including password protection, a choice of more efficient versus quicker compression algorithm, encryption, deletion of the original file after compression, and more. There is an extensive manual and the Classic version has excellent online help. Stuffit will decompress files from Stuffit and Packit formats. Separate decompression programs, UnStuffit and UnStuffDA, are freeware. These allow the user to "unstuff" or expand files only. Stuffit can create auto-extracting files, so that a double-click on the file leads to its self-extraction without the use of a decompression program. This is useful if one distributes software to others. However, auto-decompression significantly reduces the efficiency of the compression and it is an awkwardly slow process with either version. Stuffit Classic is shareware at \$25, and the price includes technical support to registered users. All major information services and local BBS's accept Stuffit files.

•Stuffit Deluxe

A new, commercial, reworking of Stuffit was recently released. This came as a surprise to no one, since the shareware version had been so wildly successful that a commercial version had to come sooner or later. It is called Stuffit Deluxe (which is why the still-extant shareware version was renamed "Classic") and, indeed, lives up to its

name. It is a "high-end" program, intended for use by the professional, such as programmers and those on large networks. It supports DOS format compression (ARC and ZIP files) and has more luxuries than the shareware version. For example, the program will compress a file, send it across a network, and decompress it at the other end.

Other Options Scripts

| | |
|------------------|----|
| QuickStuff... | ⌘+ |
| QuickUnStuff... | ⌘- |
| Convert Archive | |
| Attach Signature | |
| BinHex | ▶ |
| DeArc... | |
| UnPack... | |
| UnZip... | |
| Segment... | |
| Join... | |

Options Scripts

| |
|---------------------------|
| No Compression |
| Faster Compression |
| Fast Compression |
| ✓ Better Compression |
| Custom Compression... |
| Compression Optimizers... |
| ✓ No Encryption |
| NewDE™ |
| DES |
| Custom Encryption... |

There is also a nice QuickStuff feature that creates and names the archive file for you and compresses the selected file automatically. There are even "viewers" that allow you to view a Stuffit compressed file without decompressing it first! A nice feature is the menu choice that allows compression or expansion of files highlighted in the Finder. This is accomplished by using the Magic Menu init, included with the program, which saves you the time of booting the program and wending your way through Get File dialog boxes. One other convenience improvement is the ability to use Stuffit Deluxe "extensions" into the new QuickKeys 2, which supports extensions. This enables a user to access Stuffit's compressing/expanding abilities anytime, anyplace — not just in the Finder or in the application; in essence, the Magic Menu is always with you.

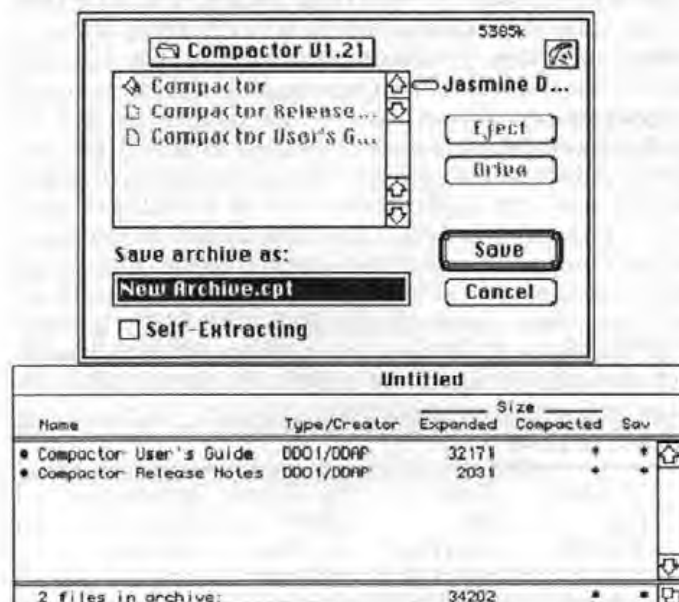
Magic

| | |
|----------------------|----|
| Send Mail... | |
| Stuff & Send Mail... | ⌘M |
| Mail Options | ▶ |
| Stuff Folder | ⌘S |
| UnStuff File | ⌘U |
| Stuffit Options | ▶ |
| Help... | |
| About Magic Menu™... | |

The Stuffit Deluxe format is not accepted by information services but the program lets you create archive files in the Classic format, in case you wish to transmit a file to others who don't own the Deluxe version. Virus and anomaly detection is a feature of both Classic and Deluxe versions and may be optionally inactivated by the user, if desired. A major drawback to Stuffit Deluxe is that its compression speed is noticeably slower than older versions of the program. While you have the option of fast, faster, or better compression, all modes are slow. Stuffit Deluxe will cost you approximately \$90, depending on where you purchase it. A faster version is, as always, "promised soon."

•Compactor

Written by Bill Goodman, Compactor burst onto the Mac scene this year like a tornado, and currently threatens to replace Stuffit as the compression utility of choice for the Mac. A typical archival file program, Compactor functions somewhat similar to Stuffit, but fortunately, is faster and more convenient to use. Compactor opens to an untitled archive file which you name and save into a selected folder (through the 'Get File' dialog box) only when you close and compress the file.



In its current release—version 1.2.1—Compactor is a simple program, with fewer options and no compatibility with non-Mac files. It does allow password protection of compressed files. It and its freeware decompression-only companion program, Extractor, will expand Stuffit and PackIt files as well as Compactor files. There is no need to worry about selecting a faster or more efficient compression algorithm as Compactor does not offer this option. The most powerful feature of Compactor is the ability to create a self-extracting compressed file by simply toggling a dialog box check-box (see the graphic). This adds only 13K to the compressed file. Unfortunately, many users of Compactor have become so fond of the self-extracting capability that the final, compressed, self-extracting file they create is actually larger than the original non-compressed file! As a general rule, the self-extracting feature is not terribly useful for files that are less than about 30—50K before compression. Considering its ease of use and low (\$25) shareware fee, Compactor is an outstanding bargain and should only improve with future upgrades; it's fast, it's simple, it works.

"Fireman, save my space!"

— Re-code compression programs

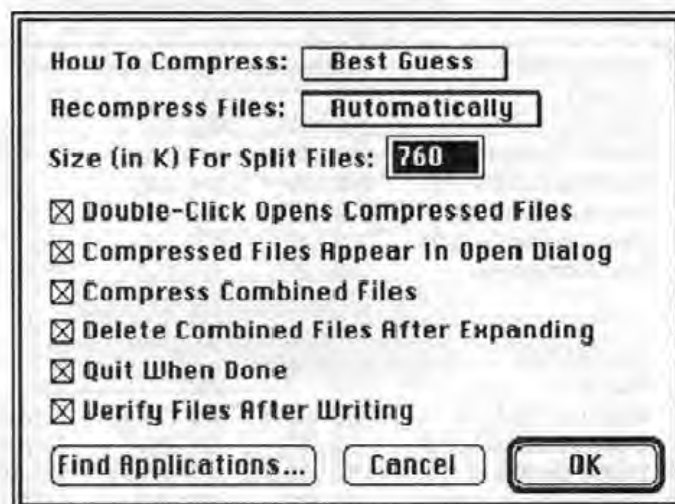
•Disk Doubler

If your main interest is saving disk space rather than creating archive files, then Guy Kawasaki's favorite commercial utility, Disk Doubler from Salient Software, Inc., may be the answer to your problems. Disk Doubler is simple to install; you simply place its INIT in your System Folder and its application program in any folder on your hard disk, then re-boot your machine. A menu item, similar to Magic Menu and called "DD," will now appear

in the menu bar whenever the Finder is active.



You may compress or expand files by highlighting a file or folder in the Finder and selecting the appropriate menu item. Disk Doubler will expand its own files as well as files compressed with Stuffit or PackIt. In the "Settings" item you have many choices including faster versus more efficient (slower) compression, automatic recompression of the files upon closing (a fantastic idea!), and more. A click on the "Find Applications..." box creates a special list that allows Disk Doubler to keep track of all the applications on your hard disk.



Once you have set the preferences, you can determine what files to compress in order to save disk space. The manual has some nice recommendations to guide you. Suffice it to say, it is best not to compress applications, especially those you use frequently, because they must be expanded each time prior to use. Most files or documents are excellent candidates for compression, especially ones that haven't been used for some time. Simply highlight the file or folder to be compressed in the Finder, and then choose "Compress" from the "DD" menu.

If you so choose in the preferences box, all files compressed with Disk Doubler will open to their creating application. For example, if you double-click on a compressed Microsoft Word file, it will open to that file in Microsoft Word. When you have finished working on the file, it will automatically be re-compressed upon closing. All this occurs with surprising rapidity and without the inconvenience of having to open or quit the Disk Doubler application itself. Don't forget, though, that if you wish to expand a file without opening it, you simply highlight it in the finder and choose "Expand" in the "DD" menu. DiskDoubler also supports QuickKeys extensions, which

means that just like Stuffit Deluxe, you can have access to DiskDoubler at any time or place on your hard disk.

If you wish to distribute files compressed with Disk Doubler to others who do not own the program, Salient offers as freeware an expand-only version, DDEExpand3.0. Disk Doubler is one of the simplest utilities to use and will, indeed, save you significant space on your disk with almost no inconvenience or slowing of your work. At a discounted (mail order) price of approximately \$45, it is worth the money.

•MacCompress

Finally, it wouldn't be fair not to include at least a brief discussion of a nice little freeware program called MacCompress, by Lloyd Chambers of Stanford, California, and co-author of Disk Doubler. This is an application that compresses files by the direct re-code-and-replace type method that Disk Doubler uses. It is fast and efficient, but is not intended to be used in the same manner as Disk Doubler. Unlike Disk Doubler, it is an application that you must open in order to compress a file or folder. Therefore, it is more time consuming and less convenient to use. Files compressed by MacCompress cannot be opened directly by double-clicking on their icon as is the case with Disk Doubler. Instead, you must expand the compressed file while running the MacCompress program.

This program is best suited for those who wish to compress infrequently used files and retain them on the disk for the times when the files are needed. The program has excellent online help files and is highly recommended for those whose compression needs are limited and who cannot justify the purchase of a commercial product.

Putting the squeeze on compression utilities

From this discussion, it is apparent that ease of use is a significant factor in selecting a compression utility. Another important question that comes to mind is how these various programs compare in efficiency. That is, which program produces the smallest file size. To determine the answers to these questions, I threw out all considerations of time and set each program to its best possible compression mode. I then subjected 13 different kinds of files to compression by each program. The files tested were: two applications, ResEdit 2.0B2 and Word 4.0, a text only Word file, a formatted Word document, a HyperCard stack, a digitized sound in FSSD format, an Excel spreadsheet, a Filemaker II database, and five types of graphic files—one each of the EPS, TIFF, RIFF, PICT and PAINT formats. Each file was compressed at least twice to ensure consistency of the results. Statistical analyses were performed using a statistics program. The results are shown in Table 1:-

| Kind of File | Application | Application | Text | Word 4.0 | Stack | Dig. Sound | Spreadsheet |
|------------------------|-------------|-------------|---------|----------|----------|------------|-------------|
| File (K) | 563 | 671 | 211 | 248 | 146 | 45 | 52 |
| Stuffit v. 1.5.1 | 383 (32) | 601 (10) | 95 (55) | 108 (56) | 124 (15) | 37 (18) | 19 (63) |
| Stuffit Classic v. 1.6 | 289 (49) | 448 (33) | 88 (58) | 106 (57) | 121 (17) | 37 (18) | 16 (69) |
| Stuffit Deluxe v. 1.0 | 288 (49) | 455 (32) | 88 (58) | 106 (57) | 121 (17) | 37 (18) | 16 (69) |
| Compactor v. 1.2.1 | 274 (51) | 458 (32) | 82 (61) | 100 (60) | 130 (11) | 37 (18) | 14 (73) |
| Disk Doubler v. 3.0a | 326 (42) | 499 (26) | 88 (58) | 111 (55) | 134 (8) | 30 (33) | 19 (63) |
| Mac Compress | 366 (35) | 576 (13) | 88 (58) | 110 (55) | 145 (0) | 38 (16) | 19 (63) |

| Kind of File | Database | EPS | TIFF | RIFF | PICT | PAINT | Means |
|------------------------|----------|----------|---------|---------|---------|---------|----------|
| File (K) | 117 | 499 | 38 | 112 | 33 | 33 | 213 |
| Stuffit v. 1.5.1 | 58 (50) | 114 (77) | 13 (66) | 89 (21) | 16 (52) | 27 (18) | 130 (39) |
| Stuffit Classic v. 1.6 | 52 (56) | 101 (80) | 13 (66) | 83 (26) | 15 (55) | 27 (18) | 107 (50) |
| Stuffit Deluxe v. 1.0 | 52 (56) | 101 (80) | 13 (66) | 82 (27) | 15 (55) | 27 (18) | 108 (50) |
| Compactor v. 1.2.1 | 45 (62) | 92 (82) | 11 (71) | 84 (25) | 14 (58) | 27 (18) | 105 (51) |
| Disk Doubler v. 3.0a | 51 (56) | 107 (79) | 13 (66) | 85 (24) | 15 (55) | 27 (18) | 116 (46) |
| Mac Compress | 55 (53) | 107 (79) | 13 (66) | 93 (17) | 15 (55) | 31 (6) | 127 (40) |

Table 1. A comparison of compression efficiencies.
The numbers in parentheses indicate percent "saved" or compressed.

Among the archival file compression programs, Stuffit 1.5.1 was the clear loser, averaging a paltry 39% savings which was significantly less than the 50% achieved by both Stuffit Classic 1.6 and Stuffit Deluxe. Of interest, the latter two versions of Stuffit resulted in identical disk space savings. Thus, the only difference between these programs is the more complete package of options and ease of use of the Deluxe version. Compactor was a big surprise. It achieved significantly better compression than Stuffit 1.5.1 but, at an average of 51% disk space savings, was no more efficient than the Classic and Deluxe versions of Stuffit. Disk Doubler, at 46% savings, was only slightly less efficient than Compactor and Stuffit Classic and Deluxe. While that savings will not "double" your disk space, it will add some much needed room to a cramped hard disk. MacCompress trailed the leaders by a wide margin, but fared pretty well against the old standard, Stuffit 1.5.1.

Squashing the bottom line

So, what's a Macintosh user to do now? The bottom line depends on your needs. If you are out to tame the bulging flanks of your hard disk, the only logical answer is to get Disk Doubler. It's cheap, time-efficient, and can add upwards of 40% more "space" to your hard disk, depending on how you use it. It's so easy to use, you'll hardly know it's running. If you're cheap and don't mind a little hassle, go with MacCompress. You can't lose money on it, but its resale value won't impress you.

Of the archival file utilities, Compactor may be the best buy. It is friendlier and faster to use than Stuffit Classic, and can create self-extracting compressed documents with incredible ease. Don't be lured by the viral protection offered by Stuffit Classic and Deluxe; you still need a separate anti-viral program. Compactor should suit the needs of most of us, with Stuffit Deluxe serving those who

need its powerful extras. StuffIt Classic is an excellent upgrade of the old standby, and will be around for a long time to come, as die-hard StuffIt users won't give it up easily. I know I haven't made the switch — yet. If you're a StuffIt user, make sure you get StuffIt Classic to replace the older 1.5.1 version; you'll be glad you did.

Finally, if you don't intend to compress files yourself, you're still not off the compression hook! It is likely that you will eventually need a way to expand compressed files you may receive in the course of your everyday Mac life. You should have Extractor and Disk Doubler Expand 3.0 (DDEExpand3.0a) in your library. As soon as Salient upgrades the latter to allow it to decompress Compactor files, you can get by with it alone.

Will there ever be one compression program that does everything you need it to do, do it fast, do it well, and be able to deal with every compression format? Does John Sculley drink Coke?

Tom Pitts © 1991 The MacValley Users Group
MUG News Service, 1991

Film at Eleven

A comment on Tom Pitts' article
by Ken Gruberman

The world of compression utilities is an ever-changing one, and new developments are happening all the time. Such was the case when Aladdin Systems, makers of StuffIt Deluxe, announced that they were shipping a new version of the program.

This good news comes at a most propitious time, especially for owners of this particular program. You see, what Tom Pitts didn't cover in his (otherwise exhaustive) article was the issue of speed — the speed at which a compression utility compresses files. And this subject is very near and dear to StuffIt Deluxe owners' hearts, because the current version is noticeably slower than its antecedents and competitors, causing no end of consternation and irritation at what is an otherwise noteworthy program.

All that's been changed. Aladdin's made the jump to version 2, and has promised a "noticeable" increase in speed, perhaps as much as 3 or 4 times faster. Of course, we won't know until we see it, but on the surface, it sounds good. Compactor seems to be the fastest at routine compressing tasks, with DiskDoubler close behind and StuffIt Deluxe running a distant third, but with the improvements and other enhancements, Aladdin gets right back in the race.

Those other enhancements include special optimizing routines for 24-bit graphics and sound files. DiskDoubler and Compactor have little or no reducing effect on these files, so this is a welcome development. Also included with StuffIt Deluxe 2 will be the ability to create "self-extracting" files currently available in StuffIt Classic, but mysteriously absent from the current version of Deluxe. New encryption routines for the security-minded, and the ability to open multiple archives and swap, copy, view, or otherwise manipulate the files within by simply dragging them back and forth will also be available.

And if that weren't enough, special "Viewers" that let the user look at, open, print, or copy either text or PICT files, CanOpen-like, are also shipping with version 2. In fact, the list of features is somewhat overwhelming. If everything lives up to the promises from Aladdin, StuffIt Deluxe will once again take its place at the top of the compression-utility heap.

Likewise, Compactor is upgrading to Compact Pro, and will sport lots of new features and even more speed and power. Stay tuned for further details!

Ken Gruberman © 1991 The MacValley Users Group

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Imagewriter ribbons black £3.35 colour £7.25
Apple branded £8.25
Original and compatible supplies for any make of
printer, copier or fax machine, call for quote

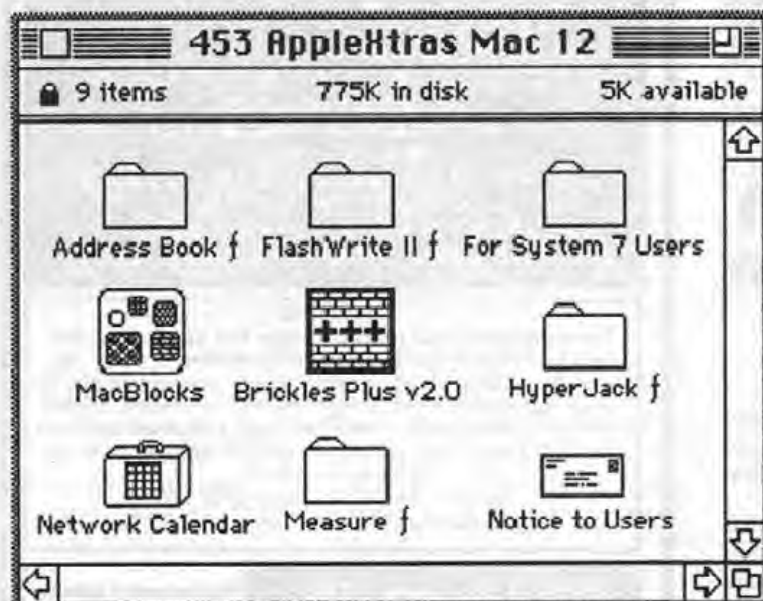
BeagleWorks integrated software, ideal for the smaller Mac running System 7,
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See advertisement earlier in this magazine for more products and offers

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AppleXtras Mac 12



Disk 453 AppleXtras Mac 12

Address Book is a utility application for handling address information in almost every way imaginable. FlashWrite II, Measure and Network Calendar are also very useful utility programs. There are some goodies for System 7 users and three games to play over Christmas.

Disk 459 and 460 ResEdit 2.1.1f1

The latest ResEdit is fully documented in HMG™ ResEdit Primer 6.0 and comes with full extensions and resources.

Disk 461 Utilities

Switcher 1.1 enables switching easily from one system to another. Designer Draw is an easy flowchart and diagram maker. (See below)

Disk 462 Fonts and Type Utils

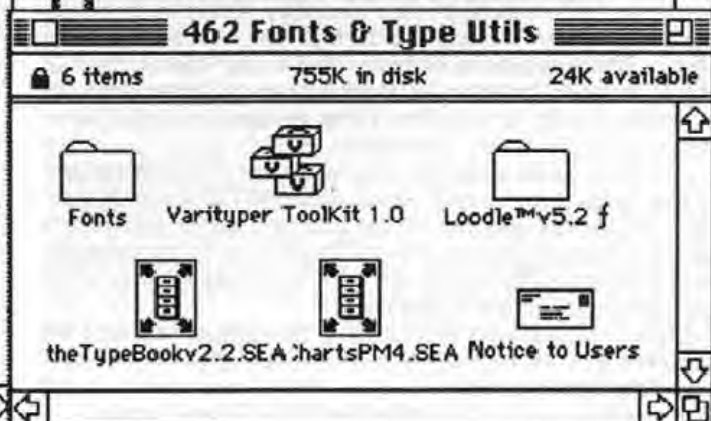
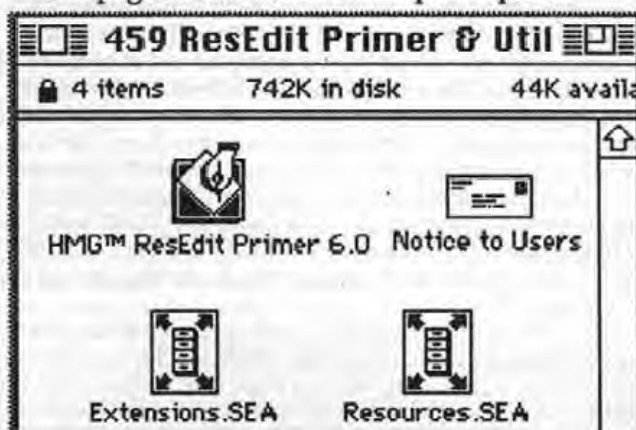
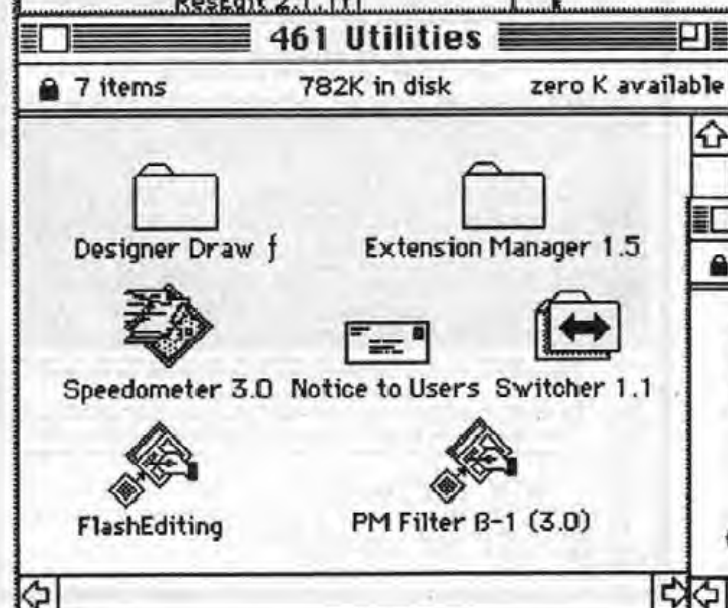
A Christmas present for font buffs! (See below)

Disk 463 Wallpaper Demo Disk

See page 45 for details and special price.



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ResEdit
and
Primer**



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454 DACHS Art 1

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About hc Art I DACHS PD Art Template

DACHS PD Art1

456 DACHS Art I

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hc Art III Tom's Slides

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455 DACHS Art 2

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About hc Art II ClipArtViewer v 1.6

DACHS PD Art 2

457 DACH!

2 items 738K in disk

About hc Art IV

DACHS PD ART 4

458 DACHS Art 5

3 items 746K in disk 39K av

About hc Art V DACHS PD Art 5

Apple ART FILE

Just a glimpse of the varied clip art from the Dallas PD Art Stacks to be found on the five disks numbered 454, 455, 456, 457 and 458.

Committee Member Self Portrait

Treasurer

Irene Flaxman FCII, ACMA



committee invited me to their next meeting. After getting to know me, they invited me to become the Group's Treasurer, and I have been re-elected to that position each year since then.

This can be quite an onerous task, at

It is my turn to tell you about myself, my involvement with Apple2000, and my other interests.

I have lived in Liverpool all my life, and I see no reason to leave the city despite the ravages of the recession. I am currently employed by a leading telecommunications company, and I'm pleased to say that my duties require me to use my accountancy experience and my computer experience.

My first contact with computers was an IBM mainframe, back in the mid-70's. I was employed by one of the leading insurance companies, and I was trained as an analyst programmer, gaining a great deal of experience over a number of years. Unfortunately, I was too late to learn Assembler—and this has been one of my regrets—I learned to program in Cobol and Mark IV.

My work seemed to consist mainly of designing, writing, maintaining or implementing accounting systems—but I couldn't understand those accountants! Hence the change of direction in my career. I went back to nightschool, to study for an accountancy qualification. Five years later, having passed the necessary written examinations, I transferred into one of the Accounting Functions, so that I could also gain the practical experience which is essential to qualify as a Management Accountant. I take my profession very seriously, trying to keep up-to-date in a changing world. I must have impressed my professional colleagues, as I now have the honour of being the President of the Merseyside branch of the Chartered Institute of Management Accountants.

My husband shares my interest in computers, and our first "home computer" was an Apple ///. It took all our savings to buy the computer, floppy disk drive, monitor, AppleWriter ///, Visicalc ///, Busi-

ness Basic and Pascal.

The spreadsheet provided the most immediate benefit, as it was so much easier to complete his business accounts (mind you, the Inland Revenue would still not allow it as a business expense—it was far too costly!).

We joined BASUG (as Apple2000 was then known), and we attended a meeting in Liverpool, where we met some of the committee members. At that time, we had no intention of becoming any further involved with the Group—we were happy to pay the subscription and receive the magazines.

We decided to try programming the Apple ///, and we hit all sorts of problems. Our most ambitious project was a bulletin board system. We bought a second computer—this time, an Apple //e, and we enlisted the aid of my elder brother. Between the three of us, we tried to unravel the mysteries of Pascal and of computer communications, all at the same time.

Anyone who has tried to program the Apple /// will know how difficult it was to get technical information. Apple UK tried to help, but their knowledge of the machine was virtually non-existent. In the end, they sent us a technical reference manual, and asked us to let them know if we got anywhere!

Quentin Reidford was running the Group's bulletin board at that time, and he was very helpful. However, the project was never completed because we could not sort out all the technical problems associated with it.

In 1984, I decided that it was about time I gave something back to the Group. I was a qualified accountant by this time, so I offered assistance in the area of financial controls. My offer was politely declined. I made a similar offer the following year, and the

times—particularly at this time of year, when the majority of members are renewing their subscriptions, we also have many new members joining at the MacUser Show, and the auditors are looking for additional information. All that is in addition to the normal, day-to-day running of Shop2000, etc.

As Ewen commented in the October issue, we are all a little masochistic—but we all enjoy the work we undertake on behalf of the Group, and we all get a thrill when one of the members says "Thank you" or comments on our efforts.

We have moved on from our Apple /// and Apple //e—we now use Macintosh. Unfortunately, I do not enjoy that luxury at work—my employers installed a local area network of PC clones. Of course, if I want to do some serious work, I can always take my Mac to the office...it has been known!

I no longer find the time for programming, I'm afraid. My last efforts were some five years ago, when we first bought our LaserWriter. I offered to take some of the pressure off Jim Panks, and set some of the magazine pages. I decided to try my hand at PostScript programming, in order to produce some special effects. I thought they looked Great!

These days, of course, it is not necessary to go to such lengths if you want to wrap text around graphics or rotate text, etc.—but, in those days, the utilities were not available. It was good to be programming again, too!

My other interests include SCUBA diving, travelling, looking after our pet cats, embroidery, tapestry, attending Mac expos, playing the flute. Needless to say, none of these really get the attention they deserve, these days—except for the cats, of course! 🐱

Irene Flaxman, November 1991

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CONTACTS WANTED

I live in the Kingston area and I am interested in making contact with other IIGS users in the West to South/West of London primarily.
Phone John (Evenings)

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